

NWX-U.S. DEPARTMENT OF COMMERCE (US)

**2020 Census Program Management Review
U.S. Census Bureau Headquarters**

Friday, October 3, 2014
Conference Rooms 1-4
9:00 a.m. – 4:00 p.m.

Agenda:

Pages 3 – 40	9:00 a.m.	Welcome and Kick-off Burton Reist, 2020 Research and Planning Office
	9:15 a.m.	2014 Census Test Early Results Andrea Brinson, Decennial Management Division Michael Bentley, Decennial Statistical Studies Division Elizabeth Poehler, Decennial Statistical Studies Division
	10:15 a.m.	BREAK
Pages 41 – 76	10:30 a.m.	The Path to the 2020 Census Design Decision Deirdre Bishop, Office of the Assistant Director for Decennial Census Programs
	11:15 a.m.	Reengineered Address Canvassing Recommendation Tim Trainor, Geography Division
	11:45 a.m.	LUNCH
Pages 77 – 138	12:45 p.m.	Overview of the 2015 Census Testing Activities Jill O'Brien, 2020 Research and Planning Office
	1:00 p.m.	2015 Address Validation Test – Focus on Partial Block Canvassing Component Patrick Cantwell, Decennial Statistical Studies Division Michael Ratcliffe, Geography Division
	1:45 p.m.	2015 Census Test Melissa Therrien, Decennial Management Division Stephanie Studds, Office of the Assistant Director for Decennial Census Programs
	2:45 p.m.	BREAK
	3:00 p.m.	2015 Optimizing Self Response Test Jennifer Reichert, 2020 Research and Planning Office Evan Moffett, Office of the Chief Information Officer Stephen Buckner, Communications Directorate
Pages 139 – 175	4:00 p.m.	Wrap-up Burton Reist, 2020 Research and Planning Office

Burton Reist: Good morning. I'd like to welcome everybody to this our eighth quarterly program management review for the 2020 program. It's great to see you all here. We're ready to get going. I think we have a great day planned and some wonderful stuff.

Chuck, are you moving the slides? I don't have a clicker but that's fine. No, she can - he can - move them. You've followed me enough in the past to do this so we always begin with just a few housekeeping things. Restrooms are right around the corner and down the hall.

Our emergency exits to the left and to the right. Just follow them if we have to vacate the building. There will be an announcement to that effect if there is. I want to remind everyone that the meeting is broadcast internally via our ETV as well as externally now via a publicly available broadcast. We have lights and cameras to that effect. I think it's pretty exciting.

Please consider or keep in mind that all microphones are live at all times so be aware of that if you have sidebar conversations. For questions please remember to speak directly into the microphones for the benefit of all the participants including those watching us from afar. We'll be breaking for lunch at approximately 11:45.

We keep these times flexible so that we don't have to undermine any discussions that are happening in any of the sessions so that can shift so it may be shortened or lengthened depending on how things go. I want to say at the outset that as you know Frank Vitrano has taken a new position as the Chief of the Office of Data Analytics.

We have a wonderful program today that's going to show you how much work we've accomplished and how we are smoothly on track in this program

and moving fluidly toward the design decisions at the end of next year or this year now at the end of Fiscal '15.

This is due in no small part to Frank's leadership and Frank's hard work and we are indebted to what he's meant for this program and means for this program and I think that our pride in where we are is Frank's pride and it's been a pleasure working with him and we wish him all the best in his new position.

So today's agenda we're going to be discussing some early results and lessons learned from our 2014 Census Test and again we're going to see some presentations today and some work today that shows us where we are as we're moving toward the design decisions.

We'll also hear an overview of our 2015 Census testing activities and dive into more specifics around two of our 2015 Census side tests, the two tests that are planned for Census Day of next year, April 1 of next year, centered on a Census Day of April 1.

As always Q&A is encouraged but we do have a lot of information to convey today and due to time limits, some questions may need to be addressed offline. We will send responses to anybody who has a question or wants more clarification or more information about anything we cover today. Our e-mail is up on the board and we can provide that to you.

I have a few program management updates. The first is simply what I've been saying that we're on track to reach our expected design decisions at the end of Fiscal '15. We're developing and updating our plans and requirements around the 2015 and 2016 testing activities. You'll hear more about 2016 at the next PMR where we'll layout our agenda for 2016.

That's still in some ways a work in progress and contingent upon the plans for '15 and the results coming out of '14 so we'll be shaping that and talking with you about that in the near future. We're also continuing to monitor and mitigate our program level and project level risk.

We've added a new risk regarding the reengineered address canvassing operation just recognizing that this is a very new approach and there's risks around our need for people to understand that this approach while it's different is no less focused on a healthy address list and the most accurate and complete address list that we can possibly attain.

We also have a risk around administrative records. Actually we have divided this into two risks that were closed and reoriented around the internal questions and risks associated with the records that we're using and the completeness of the records and the ability of those records to provide the kind of data that we need for the Census.

And an external focus about just understanding where the public as we work with our advisory committees with other stakeholders to help everyone understand what it means for us to be using data already provided to the government and other sources of data to enhance Census operations, control costs and maintain high quality.

We also moved the 2020 Census program earlier in the Census enterprise and data collection and processing initiative systems implementation. That schedule is now we move into Baseline 2 of the said CEDCaP system for the 2010 program so that we can ensure that the requirements for the 2020 program are fully understood with respect to CEDCaP and that all of the suite of CEDCaP systems are on track for the 2020 Census.

Continuing the program management update, we're currently operating under a 72-day continuing resolution as all of you know. I want to stress that we have ensured that the activity necessary to make the design decisions by September are on track under the CR.

I know that a year ago we had to put some teams into hiatus. We had to delay some testing activities because of the budgetary situation we were in then. We're not in that kind of a situation now. There are some risks associated with some of the work related to CEDCaP development that has to get pushed back a little bit because of the CR but the 2010 program is on track.

The tests are on track. There will be no delays in our work needed to meet our commitment to fulfilling our design decisions and then I also want to announce that - I have a couple of announcements today - one is that the 2020 Census Website is live. It was officially launched yesterday. There's already a lot of information there.

This is going to be an evolving process for the next 10 years about what we're doing with respect to the Census and ultimately the data we produce from the Census. We're very excited about the Website and I think you'll be pleased as you go and explore that. We're closing-out the 2014 Census Test. We actually closed-out all operations about two weeks ago.

We accomplished a lot. We learned a lot in the '14 test and I think that it's important to as we talk about the test and look at the results and look at the lessons learned, I always want to stress that we should not lose sight of the forest for the trees with respect to this test. This has been a great test.

I like to remind ourselves that, you know, a little more than a year ago we were here talking about a complete reassessment of the program and we redefined that '14 test and put everything into it.

That was a huge test and it was pulled off in a short period of time and it was pulled off with the field director at the RNM Directorate, the IT Directorate and the 2010 Directorate all working together closely. We integrated 29 systems for that test. We setup and smoothly implemented an Internet response.

We used electronic handheld enumeration devices that by and large were completely fluidly accepted and used by the enumerators in the field. These are huge accomplishments and we did it working together across the enterprise.

This is to me for all of the data that we're getting from the test equally important is that we're learning how to work together and were there, you know, glitches and bumps in the road?

For sure but we learned a lot from that and we're much, much better prepared now as we move into the '15 test with working closely with our IT Directorate again working with field, working with RNM. We have a 2020 team that cuts across the whole Bureau and it's been terribly exciting to watch this unfold.

And I just want us to remember that we do these tests for lots of reasons and this has been a huge accomplishment in this test and I think it's the people who worked incredibly hard to pull this off, many of whom you'll be hearing from today deserve a lot of credit for that.

So as we move forward, our next discussion by Andrea Brinson, Elizabeth Poehler and Michael Bentley will provide some of the preliminary results for this important test.

I think it'll be very interesting but again a big congratulations to everyone who worked on the test and contributed to the success of this effort. I also have some additional breaking news in addition to the Website. I think it's up now. We are announcing today our sites for the 2015 Census test.

We have a test in Maricopa County, Arizona that is oriented around you'll be hearing more about this around it that the redesigned NRFU operation - the new concept of operations - about management of NRFU and the piloting of the new operations control system and the continued development of automation within the NRFU operation as well as new contact strategies and the continued analysis of administrative records.

We also have a test in Savannah, Georgia that includes the entire Savannah media market which encompasses counties in Savannah as well as southern South Carolina. That's a test that's going to be focusing on optimizing self-response, our ability to leverage the Internet.

It will build as the Maricopa test it will build on what we learned in 2014 but we're also going to be looking more closely at non-ID processing, at processing responses from people who don't have a Census ID that we provide to them and we'll be looking at it in Real-Time.

So this is going to be an opportunity for us to get into the field with non-ID processing for the first time in a really robust way and this is cutting-edge work for the Census Bureau. I think that it's critical to our ability to leverage the Internet and if we can figure out how to do this, we'll be the first country ever to do this.

And I think it will take us a huge step forward so that's a big part of that test and then we're going to be looking at communications and promotion in this

test as well. There will be an advertising campaign in this test. We've never tested advertising in promotion in a Census test before.

And we'll be doing that because we want to create a Census of environment as we look at things like preregistration and non-ID processing but we're also going to be taking steps to learn how to function in an evolving media market that gives us the opportunity to target advertising, to target promotion to specific ways to reach specific population groups that are important to us.

This is again, you know, an arena that's shifting dramatically and we know that by getting out there in this test and in future testing efforts, we can learn better how to function in this communications environment that has changed so that's my update.

Here's again the e-mail for Census test. We're always open for questions as I said. If you have questions now that's fine or we'll move right into the presentations and the heart of the day.

Before we do move forward I want to turn it over to Chuck Fowler for a moment who has a few words about some of the technical changes and technical differences to our microphones and some other aspects of what we're dealing with. Chuck?

Charles Fowler III: All right, thank you, Burton. Good morning. A few folks that have been here in the past you'll notice that there's some more equipment in the room so this is a reminder that this equipment is part of a public view stream to broadcast this meeting to our outside folks.

So it's a tool that the Census Bureau is starting to use that will help us engage our stakeholders in a better way so I want to remind everybody that we're

streaming live on the Web for some outside stakeholders as well as our internal folks are watching on our electronic TV, ETV.

So with that said, you'll also that we have some new wireless microphones and I want to just give you a little bit of instruction because of the sound pickup it's important that we speak directly into these microphones when we're talking and when you see red, that means they're live.

And when you hit the big button in the middle - as you can see - so when you go to speak, just hit the button, speak and then turn it off if you don't mind and folks that are on the outside perimeter if you're asked to speak or you have to speak, please come up to one of the podiums, hit the middle button, turn it on and then turn it back off when you're done.

And one final if you brought your own device, we actually have a guest wireless service available today. We have some of our IT folks around the room. We have Blanca and Eric back in this corner.

They can help you out and we have Brandon and Sarjeel right here so if you'd like to access the Internet from your own device, contact one of them if you're having any trouble and you can get hooked up and depending on your agency's security requirements, hopefully you can get to your e-mail so that's about it. Thank you.

Burton Reist: Thanks, Chuck. I'm going to turn it over to Andrea, Eli and Michael, who will take us through some of the early learnings from the Census test.

Andrea Brinson: We are happy to report that the 2014 Census Test completely operations. This morning I want to first revisit the test scope and the schedule for key activities then I will review some of the successes and lessons learned for self-response,

non-response, the system's readiness, the operational readiness and communications.

I will also give you an update on the BYOD test and the summary of our close-out activities, then I'm going to hand the mic over to Michael Bentley who will share the early self-response results and then Elizabeth Poehler who will share the early response follow-up results.

First I'll go over the high-level objectives of the test. Overall, the 2014 Census Test was successful. The main objective of the 2014 Census Test was to test contact alternatives for both self-response, non-response follow-up enumerations to determine the most efficient and cost-effective to get data from responding households.

For self-response the test gave an opportunity to learn on how people come to the Internet so that we can optimize systems and procedures for the future. For non-response follow-up one objective was to test the use of administrative records to determine the quality of the records and in conjunction with actual field enumeration while using predetermined contact strategies.

Another objective of the test was the enumeration instrument prototype in the field to determine its impact on completing field enumeration for use in the field and to determine what are the application operational issues that need to be addressed in future testing.

Using the enumeration instrument prototype allowed testing of adaptive design approaches to set priorities to cases, to either use telephone or personal visits in specified order and to train enumerators. Time and motion studies were conducted to determine enumerator challenges in using the enumeration device and to recommend changes to training.

All activities were deployed on schedule. We opened the LCO April 17. Census Day was July 1. The self-response approaches were conducted June 5 through July 21 and the non-response follow-up field operation was conducted August 14 to September 23 completing field work two days ahead of schedule.

Where self-response overall success included a higher self-response rate and we found that the Internet push postcard reminder, postcard reminder mail push near contact strategy appears to be the optimal thus far. The non-ID interface has functioned well and there were no issues with the workload. Both e-mail and text providers solutions were successfully deployed.

Lessons learned. E-mail as an initial invitation and reminder contact strategy is not an effective replacement for mail pieces. Short-time frame between mailings limits our ability to exclude households who have already responded from subsequent reminders. Volume of calls and peak call hours to the telephone questionnaire assistance was much higher than we projected.

The non-response follow-up overall success. For the enumeration we successfully implemented an in-house build on an enumeration device. The Census operations mobile platform for adaptive services and solutions otherwise known as COMPASS was that device.

There were no production issues related to the integration between the non-response follow-up systems. We attribute this success to the two integrated systems tests and two integrated user acceptance tests that we held.

The local Census office was successfully established and implemented the distribution and management of enumeration devices sufficiently. Housing units that could be enumerated with administrative records were successfully

removed from NRFU workload at the appropriate time. Late self-responses were successfully removed from the NRFU workload on a daily basis.

Our lessons learned. We were unable to recruit sufficient numbers of qualified applicants from within the original test site LCO boundary. Field division expanded the hiring area for the test to include all of D.C, all of Montgomery County and Prince Georges County which then provided us with ample candidates.

Procedures to enumerate gated communities and secured access buildings should be further refined and enhanced. We need to strengthen training and procedures on contact strategies including timing of when an enumerator should look to collect information from a proxy.

We need to better understand what information is flowing from various systems into this unified tracking system to ensure that costs and progress reporting is accurate. Our reporting was adequate but we want to refine it and make it better for high-level management reports in the 2015 test and beyond.

Systems readiness. The overall success was that the development of functional diagrams for systems of the associated architecture artifacts or workflows aided system providers in identifying the inputs and outputs to systems of the development of the interface security agreements and control documents.

The software development life cycle gate reviews and the functional diagrams along with the systems integration team meetings with systems developers provided improved communications and collaborations and successful deployment of the systems for the 2014 Census Test.

Our lessons learned for systems readiness, the 2015 test and subsequent tests will use the enterprise software development life cycle process and continue

to build on the 2014 test system's readiness. This will help to ensure that the system's readiness is in place so that systems would be ready for production.

Operational readiness, overall success. The operational readiness team was successful in coordinating readiness across the enterprise for the areas that participated in the development and the execution of the system, the processes and the equipment necessary to conduct the 2014 Census Test. All key activities were deployed on schedule.

The 2014 Census Test team identified and managed risk. One example is that the pretesting of the onboarding process for temporary field staff requiring field staff to create and remember several different passwords to be used on the device was seen as a potential risk.

To mitigate this risk the password process was tested during onboarding testing. It was learned during that the test that the password process was cumbersome. As a result steps were taken to reduce the password burden without compromising security.

Another example is initially the research and testing operational control system office training was limited to written job aids and would not include face-to-face training. The risks identified that if office staff did not have a clear understanding of the RTOCS functionality, it would result in poor management assignment of work.

To mitigate risk, face-to-face training was initiated to ensure office staff had a clear understanding of the RTOCS functionality. Our lessons learned. The 2015 test and subsequent tests will continue to build on this 2014 test operational readiness discipline.

Improved communications. Cross-Directorate collaboration and integration was fully successful. The IT Directorate of the 2014 Census Test stakeholders worked closely to coordinate and communicate risks and issues.

It's important to know that the LCO actually made some - a thank you - the IT Directorate because they did above and beyond what would have been expected what had been originally planned. We are very pleased with that relationship and we hope that in subsequent tests that that can be maybe improved if possible and will be ongoing.

The language program was not part of the initial test. Our local partners recommended that we incorporate languages. This was a late scope change but we've provided fact sheets to the enumerators in five languages including Spanish, French, Vietnamese, Amharic, Chinese and Korean.

For bring your own device. The purpose of the bring your own device test was to demonstrate the ability to conduct non-response follow-up activities using commercially available equipment and services that were not government-furnished.

Prior to the BYOD test we conducted a survey using trained field staff, enumerators, crew leader assistants to crew leaders and field office supervisors who participated in the 2016 test.

Fifty-six point seven percent participated in the BYOD survey. Most who responded to the survey owned a smartphone and about half own a tablet for their personal use. Seven employees participated in the actual BYOD test. The participants had to have an iPhone 4 or greater and iOS 6 or greater.

The employee participants were provided and read the BYOD acceptable use policy. We provided them with instructions to install COMPASS, any Kinect,

(Moss 360) applications and had them conduct five test cases. I want to note here that sensitive data were not collected and all testing was performed at Census headquarters.

The IT staff then read those applications from the participants devices. The results were some minor issues were discovered with instructions for the installation of (Moss 360) software due to the release of iOS 8. A focus group recorded the employees' perceptions of the BYOD acceptable policy.

The participants provided feedback on how to improve the acceptable use policy for the 2015 non-response follow-up test. What we were looking for and what we found was that the majority of the participants would be willing to use their own devices to perform field work. There were of course a couple that stated they would prefer to use government-furnished equipment.

Our close-out activities. Our local Census office will complete these activities in October. The disposition of non-IT and IT equipment, the shipment of unused materials to NPC, the shipment of laptops and iPhones to headquarters, final walk through with GSA to close the LCO.

The disposition of materials and questionnaires in National Processing Center, instructions have been provided to either destroy or maintain those materials. For systems delivery of final outputs and making test data available to the research and testing team to complete their research is in process now.

We are doing a final review of any remaining risks and closing them out and the schedule review and close-out after all activities completed is in process. Now I'm going to turn it over to Michael Bentley.

Michael Bentley: Thank you. Good morning. Today I'm going to present some preliminary results on response rates for optimizing self-response in the 2014 test. Before

doing that, I just want to briefly summarize what we tested. The first objective of the research was to test the implementation of a notify-me Census.

This is where we sent a sample of addresses, a postcard inviting them to sign-up to be notified by either e-mail or text message when it's time to respond to the survey. If they did not sign-up, that address just received the standard mail-based approach.

In an actual Census the idea is that this would be part of the initial advertising and promotional blitz where eager respondents could engage with us and we could reduce paper mailings.

The second objective was to test the use of non-ID responses. Here we did not provide the sample panel with the user IDs to enter the Internet site. The goal was to test our ability to process and match respondent-provided address information and this was accomplished daily.

In future testing we're working on real-time match functionality where the respondent is in the survey. The third objective was to test the use of e-mail as an initial invitation to respond. We used e-mail addresses and phone numbers, purchased from third-party vendors on a supplemental frame that had been linked to physical addresses.

The intent was that with a push to online response and more and more people being online these days and connected, e-mail could potentially be a replacement for postal mail for possibly some demographic groups.

Finally we also tested a couple tweaks to our standard Internet push design. This slide just provides a high-level summary of the design for each of the contact strategy panels. The general approach with each panel was to send the

initial survey invites on June 23 followed by two reminders about a week apart and then a paper form in mid-July.

Beginning with the second reminders - Contact 3 - materials were only sent to non-responding housing units. I should also note that the sample size for each of these eight panels was 10,000 housing units or 80,000 total.

Now moving on to what everyone is most interested in, the results. With the notify-me postcard panel, we had about 3% participation from the sample of 10,000. The vast majority of those about 92% selected e-mail as the preferred contact mode. The other participants chose text messages.

Of those that did sign-up, 93.4% ultimately came back and responded to the Census test and most all those were indeed Internet respondents so this was a fairly successful result for those who chose to sign-up for an e-mail or a text.

We note though that the additional burden of having to do something twice first often to be notified and then to come back and respond may possibly have inhibited the response rate somewhat.

Before I talk about these results further, I just want to point out that the numbers in parentheses for this and later slides are all standardized just so that's clear. Overall the entire notify-me postcard panel of 10,000 including those who did and did not sign-up actually had a lower response rate for Internet responses and in total.

As you can see for example, the control panel had 45.3% Internet response and notify-me had 43.2%. That result perhaps doesn't seem very intuitive but one explanation is that it's possible that the invite postcard may have slightly depressed response in later mailings.

One theory is that there might be some cases where say a person opens the mail and thinks I already got the postcard for that already and decided not to sign-up so why are they still bothering me and they don't respond further.

I note though that the system functionality for notify-me worked very well and we learned many important things as we move forward for the next round of testing next year.

The next comparison we looked at in this test was an Internet push approach where the user ID provided the comparison not providing a unique ID. We found lower Internet and total response rates for the non-ID panel compared to the control sample that received an ID. For Internet responses the difference is about five percentage points, 45.3 compared to 40.2%.

The primary explanation for that is that the address provided for all non-ID responses needs to be both matched and geocoded to our frame. If a respondent-provided address is not matched, then it is effectively a non-response for our purposes.

Preliminary results from the matching operation shows that about 94% of non-ID addresses were matched which was very good. I will next discuss the e-mail invite panels.

We learned that there were some challenges with the quality of the e-mail addresses we have in our supplemental frame and this resulted in many bounce backs to bad addresses and an unknown number that actually reached a person and were opened.

In part because of these challenges, we saw significantly lower response rates, much lower Internet response, lower telephone responses and lower response overall compared to the control panel.

In fact the results in this slide actually somewhat mask the full picture a little bit. Two weeks in the data collection, when the second reminders were mailed or what was actually the first thing that many of these e-mail sample cases actually saw, the response rate for the Internet push control was above 30% but it was only 2 to 3% for the three e-mail invite panels.

Clearly this is a major lesson learned for us as we study the best method for encouraging households to respond to the Census online. The takeaway result is similar for the e-mailed reminder panel. Here sample units initially received a letter invitation by mail but their first reminder was by e-mail instead of by postcard.

Again we saw lower Internet response and overall response rates with the e-mail reminder panel. In fact Internet response is about 5-1/2 points lower compared to the control panel. Next we tried sending automated voice invitations in two different ways.

This is where we left the phone message to landline phones, first as a form of pre-notice prior to sending e-mail invites and second as a reminder phone call after sending paper questionnaires to non-respondents. In both cases we saw no noticeable impact on response rates.

For instance 62.8% overall response for addresses in the control panel was the landline phone compared to 62.5% for the AVI reminder panel so next I just want to summarize the main preliminary conclusions that we learned. With notify-me we saw relatively low participation of about 3%.

The burden of having to take two actions, first to register with your notification preference and then to come back and respond may be depressing response a little bit but functionality worked very well though and we plan to

test this again in another site test next year which we just learned about in the Savannah marketing area in the presence of promotion and advertising to encourage participation.

This put a strong value in reducing our paper footprint in the 2020 Census. Next with the non-ID Internet push panel in which we purposely did not provide a user ID, we found lower overall and Internet response rates compared to the control panel which we provided an ID. This was primarily due to the address match rates that were not 100%.

There could also be other factors such as people not comfortable responding without a unique ID. However, we believe that a non-ID response option could have great value in the presence of a Census promotional campaign which we will study as part of that site test in 2015 and you're going to hear a lot more about that this afternoon.

We also learned that e-mail invitations or reminders are not currently an effective replacement for postal mail. In the future we may consider not replacing but perhaps supplementing paper reminders with e-mail reminders delivered at about the same time.

Regarding automated voice invitations as either a pre-notice or as a reminder, we found no significant impact on response. Later today you will hear a little more about using automated voice reminders not as a specific contact method but as a possible communications vehicle in the 2015 optimizing response site set.

In conclusion it appears that a standard mail Internet push invitation approach is the contact method that is currently performing the highest which is consistent with other surveys we conduct as well as other academic survey research and we will test tweaks to this as a baseline moving forward.

Next Eli will provide some really interesting early results on the non-response follow-up operations.

Elizabeth Poehler: Good morning so first I want to just talk about the self-response and the non-response follow-up areas. As Mike talked about earlier, we used the Internet push strategy in these areas. More than 55% of all housing units responded online and there was a nearly 67% response rate overall in the non-response areas so now let's actually talk about non-response follow-up.

There were four panels in the non-response follow-up and we'll describe those quickly in the next few slides. A control panel, a reduced contract strategy without the use of administrative record, a reduce contract strategy with the use of administrative records and an adaptive design panel with the use of administrative records so first the control panel.

The intent for the control panel was to be similar to the approach we used in the 2010 NRFU. The first attempt must have been a personal visit.

Enumerators can make up the three personal visit attempts and if a phone number was available, they can make three additional attempts over the phone.

Proxies were allowed and enumerators were given the leverage to best determine how to obtain a completed interview. There were a couple of major differences from the 2010 Census as most of you are aware. Enumerators used an automated instrument instead of the paper questionnaire.

Enumerators were also provided telephone numbers if they were available for their cases. In 2010 they were not provided these phone numbers. The next panel - the reduced contact strategy without the use of administrative record - the purpose of this panel was to reduce the total number of attempts allowed.

In this panel the first attempt was again to be in person. The next attempt was to be by telephone if a phone number was available and the last attempt was in person. If that last attempt was not successful up to three proxy attempts were allowed. The automated instrument removed the case from the workload before the next day after that final personal visit proxy attempt was made.

Additionally and this actually applies across all four panels, a notice of visit form was left if a respondent was not home. This notice of visit instructed respondents to actually go online or call or telephone questionnaire assistance center to complete the form.

In 2010 the notice of visit instructed the respondent to call the enumerator or the LCO so this was an attempt to try to get people to go to the Internet and avoid another visit back to the housing unit. The third panel is a reduced contact strategy with the use of administrative records.

This panel in terms of contact is the same as the previous panel I just described but in this panel using administrative records we identified occupied and unoccupied cases and removed those cases prior to starting the NRFU field operation. We'll talk in a minute more about how we determine those statuses from the use of administrative records.

The final panel - an adaptive design panel - with the use of administrative records. In this case we use administrative records to only identify unoccupied cases and remove them from the NRFU work club prior to starting.

Then the first contact attempt was made by CATI or telephone from a centralized call center if we had phone numbers. If we were not able to complete the case by phone or if we did not have a phone number, the case

went to the field for a personal visit. For those cases that went to the field, priority cases were established.

Seven high-priority cases were assigned per day to each enumerator. These were the cases that they were to attempt that day. That priority was established either based on geography or relative importance, for example if an appointment was made for that day, that case would be given a priority.

In terms of the number of contacts allowed for this panel, if we had administrative records and we thought the unit was occupied, we allowed one personal visit attempt to that unit. No proxies were allowed. The case was removed from the workload after that attempt if the case was not completed.

For cases where administrative records was not available, those cases were either assigned one visit or three visits. What we did was look at the block groups and assess their return rate from the 2010 Census.

The top 50% of block groups in terms of their response rates, those cases were allowed one personal visit with proxy. The block groups with the lowest return rate were allowed three personal visits with proxies so let's talk about how we actually used administrative records to identify these cases.

So for the 2014 test we used four different courses of administrative records. We used the United States Postal Service's undeliverable as addressed file. That file is received and all the dates here in parentheses are the dates where files were received from the UAA file as received from June 23 to July 7.

We also used the 2012 and 2013 Center for Medicare and Medicaid statistics Medicare database, tax year 2013 Internal Revenue Service individual tax returns and the Social Security Administration (numadet) file.

Appear to have broken the PowerPoint. There it, no, too far, sorry so this is how we actually made the determination. If we had IRS or Medicare records and there were six or fewer people and we did not get a UAA reason from the USPS, we determined that unit to be occupied.

On the other hand if we did not have IRS or Medicare records and we did receive a UAA reason code from the Postal Service, we determined that unit to be vacant. Those are the cases in those previous panels where I talked about removing cases from the workload where we would have removed them.

There are other scenarios where we could not make a determination about the administrative records and they were not used. For example, if we had person information from IRS or Medicare but we also received a vacant status from the USPS, that information is conflicting so we cannot determine if the unit was occupied or vacant.

Similarly if we did not have IRS or Medicare records and we also did not receive a vacant notification from the Postal Service, we had no data available to make a determination. Okay, so let's talk about what we actually found out from the test.

As of July 29, 46,247 housing units had not responded to the 2014 Census Test and were eligible for non-response follow-up. You can see the workloads for each of the panels and roughly it's about 40% of the mail-outs so now that we have the workload established, a couple of things happen.

First in the reduced contact strategies panel and the adaptive design panel with the use of administrative records, we removed the cases that we said we would remove so we removed approximately 5000 cases from the reduced contact strategy because we were using both occupied and vacant units and the adaptive design panel we removed 507 cases prior to starting field work.

Additionally late returns or late self-responses continued to come in after we established the NRFU workload but before field work began so prior to August 14 we continued to receive returns and removed in most panels about 20% of the workload.

Additionally as I mentioned before we instructed respondents to go online if they weren't home in that notice of visit and we did receive additional returns after we started field work on August 14.

You'll notice in the reduced contact strategies with the use of administrative records that the counts of self-response are low compared to the other panels. This is simply a data categorization issue and not really an issue as to the way we had the perspective.

If the case was already removed from the NRFU workload and then we received a self-response, they're just not counted in this table but of course we know that information and could use the self-response for the Census.

Additional to note I have some late-breaking news. We do have counts for the adaptive design panel with administrative records. Prior to August 14 we removed 2297 cases from the workload and after August 14 we removed 682 cases due to late returns.

Next for the adaptive design panel with the use of administrative records, as a reminder this is a panel where we decided to call people in our centralized call centers first. There were 8859 cases eligible for CATI interviewing.

These interviews were conducted for the first two weeks of NRFU and 462 cases were completed. That means that 6171 cases were sent to the field for interviewing while roughly 2200 cases did not require interviewing because

late returns were received. In terms of our field interviewing, you'll see the results on this screen and in this slide.

You can see the breakdown of the completed interviews by whether they were occupied, vacant or the unit did not exist. Additionally in adaptive design panel we removed cases if we had administrative records after that first visit if it was not completed. In this task we removed 3500 cases as a result of that process.

Additionally we stopped interviewing on cases when they reached the maximum number of attempts allowed for the panel. What you might notice here is that the reduced contact strategy without the use of administrative records has a lot more cases where we stopped interviewing because we reached the maximum number of attempts.

Compared to the control you would expect this. The control had six attempts allowed and the reduced contact strategy had three. Another element of our analysis is to look at how well the interviewers complied with our instructions especially on the major elements of design.

Of course the results that we were seeing is dependent on what the enumerators themselves are reporting their activities in the field but in general we believe that most interviewers left a notice of visit as expected and followed our proxy rules in terms of the number of contacts attempts they were making.

In the adaptive design panel a majority of interviewers were compliant with the procedures making the number of visits as specified. In the control and the reduced contact strategy panels however roughly 1/3 of interviewers were compliant with the procedures. This is obviously an area we still need to continue to improve upon.

We are still assessing the compliance with the priority case assignment in the adaptive design panel. We know as a lesson from the 2013 Census test that interviewers did not always comply with the priority cases.

In 2014 because of that lesson learned we pay more attention to this prioritization and improved training procedures on this. We will continue to work to improve and implement more control in the 2015 test.

In terms of the COMPASS instrument and procedures, in general the COMPASS instrument worked well as Burton and Andrea have reported this morning. There are a couple of things we'd like to improve upon.

For vacant units if a unit was suspected by an interviewer of being vacant say on their first visit, the instrument does not have a path to allow the interviewer to immediately identify a proxy to confirm the vacant unit and complete attempts.

So since we want to minimize those visits to the housing unit, we're going to try to build a path in the instrument to direct interviewers to get the vacant units and the proxy status confirmed as soon as possible. Gates communities and locked buildings continue to be an issue for us and we identified this in the 2014 test.

Interviewers were dispositioned in cases and many were closed before contact with a specific unit could be made because a building was locked. We will continue to work on this, work on procedures and potentially build some more instructions into the automated instrument to address these issues.

Somewhat related to the gated communities and locked buildings but also due to other issues, the non-interview rates in this test especially for the control

panel were higher than expected. Cases were being accepted as non-interviews earlier than in the 2010 Census.

We plan to evaluate and implement procedures and COMPASS changes to help reduce the non-interview rate. One thing that we might also have had an issue in the 2014 test that would have impacted the non-interview rate is potentially a seasonal effect.

We were out in the field in late August where potentially many people were on vacation which could have impacted the non-interview rate relative to issues we might see in say May of the, you know, when we're normally out there for a NRFU.

There are a couple of other special situations we'd like to address in 2015. We would like to collect a household pop count and unit status when our respondent is unwilling to do an interview or doesn't know the details.

For example a proxy might know that a unit is occupied but not know how many people live there or they might know how many people live there but just don't their names and demographic information. The COMPASS instrument currently does not allow us to collect that information. We also plan to implement additional data and edits in the instrument.

And finally the adaptive design panel for 2014 did not use information gathered during field operations to determine when to stop contacting units. We are planning to research in test ways to use data collected during the field operations for determining when to stop contacting the unit. You'll probably hear a little bit more about that this afternoon when we talk about the 2015 test.

Burton Reist: We have got time for questions if people have them or comments. (Stuart)? If it's red, you can talk. We can hear you if it's red.

Stuart Simon: Okay. It sounds like both the participation rate and the NRFU success rate were both much lower than expected if I'm understanding what I'm hearing and so the next question is, you know, what did you learn from that and what's the, you know, and what's sort of the follow-up?

Andrea Brinson: Actually, our response rates were slightly higher than we expected so...

Stuart Simon: I guess I'm going by the (unintelligible) as I said initially that you had fewer - that you had to expand the region - because there weren't enough...

Lisa Blumerman: So that was in our hiring, for hiring enumerators.

Stuart Simon: Okay, all right.

Lisa Blumerman: So what we found was that we were having a challenge hiring and recruiting interviewers within the constraints that we had originally setup for...

((Crosstalk))

Stuart Simon: Okay, all right and for the non-responsive, I was hearing that it was out - okay, I'm sorry - this year that it sounds like it was a lower success rate than expected on the non-response follow-up and...

Andrea Brinson: So, I mean, in terms of the non-interview rate being higher, in terms of completing fewer interviews especially for the control panel, you know, we would have expected that the control panel be very similar to the 2010 Census so we're investigating for the why, you know, that non-interview rate would have been higher as I mentioned.

It might have been somewhat due to a seasonal effect, you know, we had issues in the gated communities. There might be some other things that we need to research though and we're working to address that if there's instrument procedural things that we can do to address that, we'll do that for the 2015 test.

Stuart Simon: On the Internet response, okay, so if I'm hearing right that sounded lower than expected. No? Okay, then I'm getting sort of, okay.

Burton Reist: Yes, the Internet response was actually quite remarkable for a test even, I mean, we're in a test site that people have a proclivity to respond to stuff like this but even though without a test environment, without advertising, we had a response rate initially of over 55%. When the whole Census was done it was over 60%. That's remarkable in a test. That's very exciting for us. We're really hopeful going forward with that.

Stuart Simon: And demographic-wise how does that relate to the demographics of the area that you were doing the test in?

Burton Reist: Well, that's the point I was making was that, I mean, this is an area that has a high proclivity to respond and we need to look at that. We'll be able to tease out the data and break it down by demographic as we analyze the data and we'll come to some conclusions.

We're also going to compare this to the response rate within the site locations in 2010 so that we can draw that comparison to understand just how good this is but for a test, those kind of response rates are huge, are just huge.

Stuart Simon: The comment that was made about the proxy, you didn't say exactly but essentially when you're going through a proxy to try to fill-in the information,

I can tell from personal experience yes, proxies do not know all the information and if the interviewer presses them to provide all the information, they will do their best but you're likely based on my experience to get a lot of erroneous data.

IT security. Did you do an external test of IT security so I heard about the passwords but did you do any other testing of the, you know, any kind of penetration testing or anything like that yet?

Brian McGrath: So we conducted some independent penetration testing on the application, the COMPASS application and we got very positive results. I'd be happy to discuss with you in a non-public environment the efforts that we go through to secure our infrastructure.

Burton Reist: Thanks Stuart. Others? Brian?

Brian Harris-Kojetin: Yes, this is really encouraging and I was going to suggest that it would be nice for our contacts to know what 2010 response rates were - mail response rates were - but like you say for a test that's phenomenal and the Internet response was phenomenal.

I was interested in seeing how many late returns you're getting, quite a few here and just so how does that figure into thinking about scheduling in terms of just allowing more - not sending things out - quite so rapidly, allowing more time and needing perhaps fewer boots on the grounds because people will get around to it.

Obviously reading some of these you need to disentangle when they're actually getting a phone message and then they say oh crap, I don't want somebody coming. I'll go do it online or I got the notice of visit. I better hurry up or they're going to come back.

Lisa Blumerman: You're absolutely correct and that's one of the lessons that we're able to build upon from the test into '15 so this afternoon you'll hear a little bit more about how we're already looking at how we can adjust the timings of both the mail-outs as well as some of our other activities but we've already put some of that into practice for the test next year.

Brian Harris-Kojetin: Cool, and I guess just one little follow-up is centralized CATI looked like a miserable failure unless you're leaving lots of messages on voice mail and they're subsequently going. It looks like, you know, a huge work or I don't know how many phone calls were made but very few completes. Is that - what are you gathering from that - or did I misinterpret?

Lisa Blumerman: So we're continuing to explore how CATI could be used whether it's centralized or decentralized. We did have some challenges this time around. It's consistent with some of the findings we found in '13 as well so we're continuing to look into what we're going to be doing for that for next year.

Andrea Brinson: For TQA the number of calls was 37,041.

Brian Harris-Kojetin: Oh, not TQ...

Andrea Brinson: Oh, you're talking about CATI calls.

Brian Harris-Kojetin: ...I'm talking about outbound CATI, not inbound TQA.

Burton Reist: Yes, the TQA, yes, I know you are. I mean, the TQA numbers are significant for us though because the TQA, you know, was very, very high and, you know, we're seeing this in the American Community Survey as well where offering an Internet response seems to pump up TQA, telephone calls for assistance.

And I think that that's something we need to be better prepared for. We weren't expecting that level of phone calls coming in and we'll be more prepared going forward but that's also something that we're going to have to prepare for as we look to 2020.

Brian Harris-Kojetin: And in some sense it's a very good sign of people being engaged, well, you know...

Burton Reist: That's true, wanting to do it right. You know, I mean, you're right. Ty?

Ty Mitchell: Yes, thanks. Great. Sounds like you learned an awful lot from this test. Three different questions. One, just a couple of sentences about how you - what kind of debrief you did with the field staff - and, you know, how you got people on the ground, the temporary workers and how you kind of got some lessons learned from them.

I don't know if you had time to do focus things or whatever but just a little bit about how that went.

Andrea Brinson: We don't have results yet from those debriefings. They were held end of September so I think we are issuing a final 2014 Census Test report in mid-November so we should have some results from that.

Ty Mitchell: Okay, great. That relates to some of the other things I had here. As you know we were out and saw some really interesting things with the counter, the thing that counts the number of contact visits and it would be interesting later to go through and kind of see what we saw that would predict in terms of the numbers and the then if that's one of the explanations for some of what you've seen in terms of results, I don't know if you've had a chance yet to do anything with that.

If you have, say yes and we can talk about it later. Say no, and we can talk about it later but not to get into all here but to just kind of know what level of effort kind of went to focus on some of that.

Andrea Brinson: I think we have some parenthetical information right now but we're still going to collect that but what we know later this afternoon when they talk about the 2015 Census testing, I think you're going to get a picture of more control and trying to make sure that we reset expectations of success for the enumerators.

Some of the people we had actually worked on the 2010 Census and completion of that case was the most important thing and I'm not going to steal any thunder from this afternoon but I think they'll talk more about how they're going to manage enumerators better which should help with the refill.

Ty Mitchell: Thanks, thanks on that. It was important to hear about that but to control it, I think what we're talking about is more of a program - something in the code - the counter itself was showing some surprising results and irrespective of how many doorknobs that people, I mean, that's the technical thing is what I was interested in. I don't know if you've wrestled with that one yet or not.

Elizabeth Poehler: I think also in '15 the way we present cases to the enumerators is going to be different and their expectation is success I think if you give us just and ask questions after the discussion on '15, I think you'll see that we are addressing that directly.

Burton Reist: John, did you want to...

John Thompson: Let me make a few comments on that so in 2014 what we essentially did was we took our paper and pencil operation and simply dropped an automated

device into it, all right, so we had all the issues you have with the paper and pencil operation, that is you gave interviews a whole bunch of cases to do.

What you'll hear this afternoon is that we're going to take the next step in 2015 which is starting to optimize the paper - instead of doing paper and pencil - we're going to optimize it using automation and what you'll hear is that on a daily basis the enumerators will just get the cases they need to do that day and they'll also get some guidance as which order to do the cases in.

And that's basically what they're going to have to do so it's not going to be like they're going to be having a bunch of cases walking around and doing too many visits. That's what you're going to hear so we're taking that decision power away from the interviewers and automating it.

Ty Mitchell: Just might ask my question slightly different in a second but let me get my third one in Patricia Derr and then I'll shut up. The non-interview rates were not what you expected. I'm curious specifically in forget the controls for a moment but between the other panels, is that the pattern you expected?

I'm just looking at the numbers. I might have made some errors here but, I mean, it looks like the non-interview rates went from 1/4 to 1/3 to 43% across some of those. I'm sorry, that was the completion interviews so the NRFU workload once you removed everything, how many completed interviews you have reported looks like it went 43, 33 and 24% or something like that.

I might have the math wrong but it looks like there's great variation across the panel. Is that what you expected?

Elizabeth Poehler: Yes, so I mean, that's part of our assessment is to look at how the different designs impact our completion rates. Some of it is expected given, you know, when we remove occupied cases, those are the easier of the NRFU cases so

you would expect then the harder ones, you know, the ones that are left are harder to do.

So we expect a little bit of that and I think we'll need to dig into the numbers more to see if that what actually came out is closer to what we expected or more, you know, farther away from that and what we need to do to address it. Of course, you know, the issues that I mentioned procedurally affect the panels across the board so...

Patricia Derr: You said there commerce ID, well yes, Ty's question is actually a technical question and there's two things that need to be separated. When I was out observing enumerator, she was being directed to contact households by COMPASS and they had already been contacted several times.

And people also said that they had completed the questionnaire both either online and/or in the previous doorstep context so there was something in the COMPASS technically speaking that was directing them.

I don't know if this is a glitch or a requirement issue and it seems kind of picky maybe but I don't know how it affected the actual data that is going to be researched and I just wondered if and then there's a larger question which yes, the working across the enterprise really and this is me speaking, observing, worked very well as Burton said.

And the COMPASS worked very well but, you know, so we were really trying to be sensitive to what the researchers were going to get in terms of their data so that's why this bug is kind of bothering us and then secondly what is the lesson learned like even if the operation goes beautifully operationally, in the end of the day how do glitches with the data get identified and corrected so anyway.

Elizabeth Poehler: Yes, so in terms of a respondent saying, you know, I fill this out and, you know, the enumerator is there, there are a couple of reasons that could be not a glitch so if you know, the person went online that morning and were there in the afternoon, the way the system process in 2014 that late return wouldn't have been removed from the NRFU workload until the next day.

So some of it might be an element of timing. Additionally if a respondent went online and completed their interview via non-ID path, we have to, right, in the '14 test we had to geocode that on the back end and identify where that unit was and then link that to that unit in order to remove it.

You kind of heard earlier that we talked about for the 2015 test that we're going to build-in elements for the '15 test of doing more real-time non-ID coding so that would address those issues. Certainly we could have had some mistiming between handshakes of the systems what would have delayed removing a case from a workload so we can, you know, we'll look to address those things.

Additionally in terms of reassignment, you know, just like the enumerators, the crew leaders were learning new systems and if they reassigned a case once it, you know, a case was complete and stuff like that, there's also elements of timing and doing that that could have led to enumerator going back out even though the case was previously completed by another enumerator did not happen often.

But we are aware, you know, that there were some timing issues or some more training or different procedures we need to implement for the crew leaders working the control system. That again would be addressed in a different way in the 2015 test in the way they were modifying the implementation there.

And so when we analyzed the results of the NRFU and compare, you know, like Ty was mentioned as well, we need to be aware that there are some limitations around that data between self-reporting, you know, we know we had issues with like I think you were alluding to Ty that enumerators were trying to game the system in terms of their contacts.

So they would, you know, go in and not get it done and back up so they were really doing two attempts and to us on the data it looks like one attempt. There's only so much we can do to, you know, track that but we know it's a limitation so we're trying to be as much aware and in tune with the results from the actual field procedures, the debriefings and take that into account when we assess the data.

Lisa Blumerman: I just wanted to follow-up with one thing. Thank you. To Ty's question which I think that both Ty and Trish are trying to get at and this is the notion of the counter and how the counter was operating. We've gotten that feedback from several people and when we did talk with people at BLC we were aware of that as well.

And so we are looking into the technical aspects of that so I didn't want that to get lost as well. I think we've answer a number of other questions related to that but maybe hadn't hit that one on target. I also think and John alluded to this and you will pick up on this more when we talk more about the '15 test.

And as you begin to see some of what we're planning for '15, when we add-in the new operational control system that we're building - our ROCKIT project - on top of the COMPASS instrument, some of what you're seeing and some of the challenges that we are experiencing and that we saw in the '14 test, we will have new ways to manage that and to prevent that from occurring so there will be alerts.

There will be reports. There will be ways for us to see what's happening that we just were beyond our control now where things were left more in the hands of the enumerator and we're taking that and putting that into our system so I think you'll see that we'll be able to manage that much better and much tighter.

Burton Reist: Tom?

Tom Lewis: Tom Lewis. Just want to highlight the issue that Eli mentioned about the in the adaptive design case, the NRFU cases are generally more challenging and I think we have to make sure so it's certainly fine to look at each component but we have to have performance measures that really integrate over the ensemble.

And in a broader context these things are called the apparent failure of success which you can find many examples of and so we have to make sure to look at the gestalt, not to avoid each unit but to realize that when you succeed early on you may end-up with the harder cases later on and that that's just if the net is a benefit, that's what we care about.

Burton Reist: Others? Okay, so we're scheduled for a break at 10:15 and we're almost to 10:15 so why don't we go ahead and take a break? Thank you all for a very good discussion, I think that was very interesting.

((Crosstalk))

Burton Reist: All right, let's get rolling. They should. Been informed of a couple of things. One is that our site selection press release has now gone live, now out, it's pretty cool so we also someone pointed out to me that the statistics that I think is worth honing-in on a little bit is that it's not just that the Internet response rate itself was high.

We also learned in this test that 80% of the people who responded responded via the Internet. That proportion of people using the Internet is also really high. In the ACS it's about 55% so there's a couple of ways that this test bodes really well for us as we move, you know, really working hard toward our stretch goal of a 55% response rate of the whole population, not of just the responding universe.

But that, you know, we really believe that we can push a lot of respondents and a lot of people to the Internet and if we can get that and get there, it's going to have huge dividends for the Census for the quality of the data but also for the cost because the Internet is so much cheaper to process so that's all very cool.

I'm also watching myself on TV on Lisa's iPad which is a new experience for me. I look awesome I think. Quite pleased, I should put my glasses back on because it makes me look more dignified and there's a delay that was pointed out to me too so anyway my glasses aren't on yet?

So at any rate we have two really I think important discussions coming up now. I thought that was a good discussion on '14 and that we now have a discussion of the work we're doing to get to the design decisions and what it is we that we actually have to accomplish from here going forward.

Deirdre Bishop has put a lot of time into this and done a wonderful thing for us to help explain this as we go forward so she'll be walking us through to

help us frame this as we go forward so she'll be walking us through what we're calling now affectionately the path document, the document that outlines how we're going to get to design decisions.

And then Tim Trainor is going to lead us through the reengineered address canvassing recommendation that he's been leading the effort to reach so I'll turn it over now to Deirdre Bishop.

Deirdre Bishop: Thank you, Burton. Good morning everyone. I'm happy to be with you today and happy to present the path to the 2020 Census design decision. I know that you have attended previous PMRs.

You've had discussions with Census Bureau staff and you've heard that the Census Bureau is committed to conducting a 2020 Census that cost less per housing unit than 2010 while continuing to maintain high quality.

Early on we recognized that in order to do this we'd have to identify our major cost drivers and we'd have to identify new ways to enumerate our population. Over the past few years we've devoted our research and testing program to doing just that.

We have identified our four key design areas and those areas are reengineering address canvassing, optimizing self-response, utilizing administrative records and reengineering field operations. If designed and implemented correctly, we estimate that we could save over \$5 billion in savings.

As Burton mentioned we plan to announce our 2020 preliminary design decision by September of 2015 and in order to do so we've put together what we call the path document. This is going to help guide us through Fiscal Year '15 to the point in which we make our announcement.

There are a few key topics contained within this document. Those include the assumptions that we used to generate our preliminary life cycle cost estimate, the design options and/or components related to each of our four design areas. Using administrative records is the design area that has concrete options A, B or C.

Our other design areas have components. We'll either do A and C, A, B and C or a subset of all of them. The document also contains our key questions, what do we need to ask and answer prior to September of 2015.

It contains a schedule of our key milestones and how we're going to reach out to our stakeholders such as yourselves and finally it outlines our key stakeholders. Next I'm going to step through each of our four key design areas and the topics that are included within the formal document.

I do have a copy of that document if you're interested. I can share that with you after the presentation. I'm going to move quickly. This presentation normally lasts an hour but you've already heard from our 2014 team. You're going to hear from Tim and Pat and Mike about address canvassing and then you'll hear about 2015 so I'm going to focus on the highlights today.

Let's start with reengineering address canvassing. The design goal here is to eliminate a nationwide in-field address canvassing. When I say that, I mean we're still going to do address canvassing across the nation but now a large portion will happen in the office.

A very small portion will happen in the field as we've traditionally done in the past. What were the assumptions that we made in relation to reengineering address canvassing when we developed our life cycle cost estimates?

I'm going to highlight just two, first that we would in-field canvass only 20% of the total housing units and second that we would eliminate the early Census offices of the past that we'd manage our address canvassing operation out of the regional Census centers. If we do this we estimate we can save \$1 billion in savings related to address canvassing.

Within this design area there are five key components. The first is that we'll remove geographic areas from the in-field address canvassing workload based on the availability of administrative datasets such as those related to military lands or national forests.

And also that we'll allow the method of enumeration planned for 2020 to help us guide our decisions. In the past we've conducted operations like update leave, update enumerate, why will we go out twice if we only have to go out once? Let's consider that as we make our plans.

The second design component is to use statistical modeling to help determine where to conduct in-field address canvassing. You'll hear more about this as we progress today. The third design component is to use empirical geographic evidence to determine where to conduct in-field address canvassing such as the use of imagery.

The fourth design component is to detect and capture change from administrative and third-party data sources such as the files that we use from the United States Postal Service, from our state, local and government partners and from commercial entities.

And fifth and you'll hear a lot more about this from Mike and Pat this afternoon is to conduct an in-field partial-block canvassing as opposed to full-block canvassing and what does that mean? Instead of walking around a full

city block and listing every housing unit, perhaps we'll just list a segment of that block where we know change is occurring and updates are needed.

This is a diagram to show that we do in fact plan to split the operation to in-office and in-field work but in the end all updates will serve to enhance the quality and the completeness of the master address file.

And so what are the key questions that we need to ask as we reach our design decision in 2015 related to address canvassing? First which address and spatial data including imagery can we use to improve the quality of the MAF tiger system?

Is it federal government data? Is it state, local, tribal data? What about third-party data or perhaps and most likely it's a combination of all of those approaches. We talked about this, which geographic areas can we remove from the workload based on the presence of administrative records or specific characteristics?

What's the best way to measure the quality and completeness of the master address file? Right now we're looking at a number of different methods, the MAF error model and the targeted address canvassing model. Both of those use auxiliary data to help predict where adds, changes are occurring and to determine where we should or should not conduct in-field address canvassing.

The geography division has developed quality indicators to tell us about the state of the master address file and tiger system. We are reinstating our national estimate of coverage to compare what's actually in the MAF to what our population division is estimating occurring in relation to housing units.

We're considering the use of an address range check where we send enumerators out into the field perhaps as part of our American Community

Survey to validate the address in relation to the range along the street segment. Does 3 Main Street fall within 1 to 99 Main Street? Finally we could consider using a combination of all of those approaches.

The next question and a big question is can statistical modeling be used to predict stability and change? Which data contributes to the model and which model performs best, the (maffair) model, the (tack) model, a combination of both? You'll hear more about this today.

And finally in relation to address canvassing, how should statistical modeling be used? Should it be used as a direct mechanism to tell us where to conduct in-field address canvassing or should it be used to as an input to help direct our in-office and our field work?

With each of the four key design components I have included a copy of this table to show where we're planning to test and research our efforts. Address canvassing is going to be tested in a few areas. We're conducting the MAF model validation test right now.

We are working in conjunction with our geography division on the geographic support system initiative. We're doing modeling within the decennial Directorate and we're including the use of the American Community Survey data.

Let's go now to optimizing self-response and the design goal here is to communicate the importance of the 2020 Census to the population and generate the largest possible self-response, eliminating the need to go out and follow-up with those housing units in a non-response follow-up workload.

What are the assumptions we've made here? First, that the response rate via the Internet will be 55%. We are using the Internet, it's a go and the 2014 Census Test was a great testament so this is possible.

The other key assumption was that we recognize that we will have to incorporate the use of paper questionnaires in some areas and very likely in up to 20% of the areas but this time around we'll make more data-driven decisions to help direct where the paper is sent.

Planned and implemented correctly, we estimate \$548 million in savings related to this category and there are two key design components. Mike talked about both of them when he covered the 2014 results.

First employ the use of a preregistration phase or a notify-me phase should we continue doing that as we move forward toward 2010 and second what we have referred to around the Census Bureau is non-ID, allowing people to respond to the Census without the use of a unique identification code.

There are two key options within this category. First are we going to conduct matching and geocoding in a Real-Time environment? Are we going to ask the respondent as they respond to update more information if we can't conduct an actual match at that time?

The second is perhaps it may be better to conduct our matching and geocoding at the end of the night or three or four times during the day in a batch mode. Those are things we're looking at now.

This is an example from our 2014 Census Test online showing where we did allow respondents to enter their address and street name without entering the unique ID and what are the key questions that we need to ask and answer in relation to optimizing self-response?

First and foremost what are the best methods for communicating the importance of the 2020 Census to the population? We plan to do this through the use of a communications campaign and also through a partnership program.

What is the estimated self-response rate? We learned from the 2014 test that 65% of the population responded via self-response, 55% via the Internet. What response rate can we expect via different modes such as telephone and paper? What infrastructure is necessary in order to support the use of the Internet and our other modes of contact?

How do we consider security and how do we consider scalability and then is there value in asking households to preregister? Finally the non-ID questions. Should we allow respondents to enter their address without an ID and I think the answer we found is yes, we should.

We're doing a lot of testing in relation to this category. We tested in the 2012 test, the 2014 test. You'll hear this afternoon about our plans for the 2015 test and then we have a national content and self-response test we're planning for later on.

Again you'll see across the board we're incorporating the use of not only our data from the American Community Survey but our experiences and our lessons learned. Let's talk now about using administrative records. The design goal here is to use data that the public has already provided to help reduce the non-response follow-up workload.

I think the major assumption here is that through the removal of vacant and deleted housing units, we'll be able to reduce the non-response follow-up workload by 11% thereby reducing the number of local Census offices

required by 12%. Here we estimate \$1.23 billion in savings, another big category.

And as I mentioned earlier we have three concrete options that we're considering here. The first option is simply to match administrative records such as data from the IRS, the Center for Medicare and Medicaid Services, Social Security, the Postal Service to our non-response follow-up workload and to remove the vacant and deleted housing units.

If you've heard some of our MAF stats speak in the past in 2010 we had 50 million housing units in the non-response follow-up workload; 14 million of those were actually vacant units and five million were deleted units, those that don't meet our definition of a housing unit.

And so you can imagine what an impact that would have if we could remove those from the NRFU workload. Each option has a diagram. You can look at that at your leisure.

The second option is to not only match administrative records to the NRFU universe and remove those vacant and deleted housing units but also to use administrative records to identify those units that are occupied and to go to those housing units only once.

If we don't receive a response on the first unit, we'll use administrative records to fill the response. This is sometimes referred to as the hybrid approach and in 2014 we were able to remove 32% of the workload using this approach.

Design Option 3 is to match administrative records to the NRFU universe to remove those vacant and deleted housing units, to identify the occupied units

and then to conduct no non-response follow-up visits to simply use administrative records to fill the response.

This is sometimes referred to as our full approach. In 2014 we removed 625 of the NRFU workload using this approach. Let's see, something not moving forward here. Okay, so as Chuck sets up, I'm going to move into the key questions.

The first question is very important and I think you'll also feel that way. Which administrative records are necessary to support the 2020 Census? Just like the geography question, are we going to use federal government data, tribal, state and local government data, third-party data or a combination of the above and most likely it'll be a combination of the above.

We do need to remember that this is a national program though. Does the Census Bureau already have access to the data or is the data acquisition required and are we in alignment with our existing Memorandums of Understanding agreements with those agencies in which we're sharing our data?

Let's see here. How accurately does the Census Bureau remove occupied and vacant units from the non-response follow-up workload? We learned about that in 2013. We'll learn more as we conduct our evaluation as part of '14.

And then and this is an important question too. Is there enough characteristic data to enumerate the people in the household so we have a few questions on this Census but can we fill-in name, sex, age, Hispanic origin and race using the administrative data? We're studying that now.

What about proxy responses? Are they more or less accurate than the use of administrative records and are they more valuable in certain geographic areas

than in others? I have traditionally lived in cities. I can tell you when I lived in New York I didn't know my neighbors on either side of my door.

But if I went to my mother's house I could still tell you everything about every person on the block and then finally what is the public's perception of the Census Bureau's use of administrative data? That too is an important consideration and as Burton mentioned earlier we do have a risk related to the external perception of administrative records.

We've tested this concept as part of the 2013 test, the 2014 test. We'll do it again in '15 conducting a lot of modeling. We've analyzed the results of a Gallup poll related to the public's perception of admin records and again the American Community Survey.

Okay, let's now talk about reengineering field operations. The design goal here is to use technology to more efficiently and effectively manage our 2020 Census field work. In other words use automation to help manage tasks and make decisions that have typically been made by humans and you heard Eli talk a lot about that this morning.

This category is a little different because in the other design components, we're still determining the what. For this category we know the what. Now we're trying to figure out how and we're putting that into play during our tests.

Here it was hard to pull out a few key assumptions. I'm just going to highlight three. First that by reengineering our field operations we'd be able to increase our NRFU productivity by 20% by using automation.

Second, that we would be able to remove those late responses from the NRFU workload and hopefully do it in Real-Time and third, that we'll reduce our

person and phone visits during the contact cycle from six to three relative to what we did in 2010.

This is our biggest cost savings, \$2.3 million if we plan and implement reengineering field operations and we have two key design components here. First let's reengineer the field work, provide our enumerators with daily, optimal and sequence contact attempts.

Technology is so much better now than it was in the past. Let's take advantage of it and use it to our best ability. Let's provide our supervisors with electronic access to the workload and what's happening in the field.

And finally let's automate training. Instead of having people come to a local community center, a church basement, pass-out pamphlets and, you know, stacks of paper and read verbatim, let's have them take the training online.

I think we're finding through our requirements within the government that sometimes it's easier to learn about Title XIII on the computer and make that happen than going and sitting in a classroom and Design Component 2 is to reengineer the field staff structure. Let's take a good look at the rules of our field staff.

What works best in terms of schedule? Maybe the regimented 8:00 to 5:00 of the past -- 8:00 to 4:00 -- it's not going to work. Let's see how we can interact with our field staff to implement the best schedule and finally what are the appropriate staffing ratios between enumerators, crew leaders and supervisors?

A few key questions here that we need to ask and answer. How can we reduce the cost of field operations with automation? We're learning a lot as part of our field test. What does the model entail? We really took a good look at what

we did in 2010, what we needed to change for 2010 and how we could make that happen using automation.

I think COMPASS was a perfect testament to how we could really use automation to our benefit and that ties into the next question. What type of systems and devices will be used to support our case assignment, our operational control system, routing and navigation? Which type of GIS system will we use, geographic information system?

How will we best collect data? Will COMPASS be the enumeration instrument we move forward with and finally how do we automate payroll, something in the past that has really taken up a lot of our time and energy filling-out those paper forms, meeting our crew leader at the McDonald's and having that all that processed.

The next question is will the Census Bureau build or buy these systems and how will employees obtain the devices? Will it be bring your own? Will it be a contract, etcetera? We're planning to do a lot of testing as part of the 2015 test here. We are also doing simulations in the office and working with people at home. How does this work in a simulated environment?

And finally a little bit about the schedule. I'd just like to share with you that this has been an iterative process. In putting together the path for the 2020 Census design decision, we reached out to just about every single 2020 program lead there is.

In a series of five consecutive Tuesdays, we presented this set of design components to our managers, got their buy-in, got their feedback incorporated within the presentation. We presented this to decennial leadership in July, to our executive leadership in August.

We had a briefing for ESA early September and now we're briefing you all today. Within the formal document there is a schedule for continual update on our progress as we learn from our tests and as we try to make decisions related to the announcement of the design in September of 2015.

Our plan is that by July of 2015 we will provide John and Nancy with a formal document, a draft and that we can finalize that by September. Realizing all the way that we have to incorporate our lessons learned as we go.

Now I think we decided that I would pass this right off to Tim and that we would handle questions at the end of both of our presentations. Thank you.

Tim Trainor: Thank you Deirdre. Good morning, everyone so this is a discussion that's taking a slightly deeper dive into the address canvassing topic. This is really a discussion about the readiness of the address data to support a change in the way that we have traditionally conducted an in-field address canvassing operation in the past for past Censuses.

And just to put a - give a perspective - on that, in 2010 we had 140,000 listers who walked every street in the nation to either verify or add or delete or change the address that was a part of their list so we're taking a different look at this so as you just heard, a reengineered address canvassing is one of the four key design areas for the Census.

The recommendation is about the readiness of the address data to support the change from our recent Census experiences. To support the notion of a reengineered address canvassing, we began with our geographic support system initiative to continuously update the address frame to learn how we can improve on the quality of the data, how to implement improvements in data management.

So those things were factors that we focused on. This recommendation is based on work on acquiring and processing data from state, local and tribal governments that led to addresses being added to the frame and an increase in geocoded addresses.

We also looked at third-party data to evaluate the potential benefits of that source. Reengineered address canvassing comprises components that contribute to its success such as the notion of the office work for addresses that require research thereby limiting the amount of field work for areas where we have difficult addresses.

You heard about Design Component 1 from Deirdre for removing areas for which that will be used in the field as part of other operations. This recommendation impacts the subsequent Census operations like non-ID and the non-response follow-up.

Based on the fact that more partners were collecting address data and were willing to share it as well as the recognition that technology could support process improvements, we were confident that we could contribute to the design of the reengineered address canvassing.

Based on the results that I'll share with you in this presentation, we are developing an implementation plan that has several components that will support a reengineered address canvassing for the 2020 Census.

This afternoon Pat Cantwell and Mike Ratcliffe will talk further about the methodological approaches as part of their presentations. I'm going to focus on some aspects of the data that led us to this recommendation.

So this is just simply a timeline of key milestones that led to or that lead us to the readiness of the address data. An important assumption is that the process of acquiring source data continue right up through the delivery of the address frame for the 2020 Census so just as we are today working toward this goal, this work will continue right through the Census process.

So this diagram highlights some of the activities that occurred in 2014 and some activities that are planned for 2015. Acquiring addresses and roads from partners continues through the Census. Data modeling began and will be tested based on the results of the address validation test that's going to occur later this year.

Change detection research will get underway in earnest then we'll define the models and methodologies based on continual learning and experience so this diagram speaks to the sources of addresses and this is really how we'll begin assessing the country - we are assessing - the country.

If you look at the sources of addresses on the left stack toward the left, we include the use of commercial files for areas that either have no addresses or have substandard addresses so we'll begin with the partner files.

We'll evaluate them. We'll work them through. We'll go through an in-office evaluation. If the data are good, they go right into the MAF tiger database you've heard about earlier.

If they are not good from the partner files, we'll look at commercial sources to finally decide whether we can still use that and if not then we move off into doing more work in an in-office environment and decide whether or not we have to go through to canvassing.

This is an example of some of the areas that we want to take a close look at to see whether in fact we need to really spend time in these areas so the blue on this map is principally federal lands, military installations, national parks and so in most of these places either we have special enumeration activities or we don't have people there, we don't have housing there.

And if we do have housing there, these are places where we might be able to work closely with our federal counterparts and other agencies to give us a more up-to-date status on what's happening for those particular areas so this could save us a tremendous amount.

Just think about somebody getting an assignment and walking down a lonely road in Western Montana. I mean, that's the kind of thing we're trying to avoid so experience indicates that stability and consistency of addresses are good indicators of fitness for use.

The United States Postal Service delivery sequence file was the primary source for most of the areas that we manage our address data for. Partner data is partner data from the local, state and tribal governments is helping us to add addresses and to supplement the DSF in terms of additional information.

And then third-party data is pursued when we have a void or we have insufficient information for a particular area of the country so this chart is a stability index for addresses within a Census tract from the periods of 2009 to 2012.

A value of one indicates that no change, there's no change which means that the address successfully that was used in the 2010 Census has not changed and it's highly likely to be successful if we were to use this address today.

A value of less than one indicates a level of change and this is where other sources would add to the DSF or we'd use the DSF as well as other partner files that can supplement the difference so for example just looking at the information if a new housing unit came onboard between that time period, that would indicate a change.

It's important to know that the delivery sequence file from the Postal Service does not cover the entire country. Rather it covers only the areas where they deliver mail so I'm going to show you a little map that has areas on the next slide that will show where the DSF generally does not cover.

Actually it's going to be in the yes, here we go so the light areas indicate - the light blue areas indicate - less stability. The darker areas indicate greater stability and the gray area itself are the areas where you don't see Postal Service coverage and obviously you can't see too well on this one but at any rate you would see it on the maps that we provide.

Okay, so thus far we've acquired addresses from partners for about a third of the country, about a third of the Census tracts in terms of where population are. That equates to 1/3 of the housing units and 1/3 of the address list.

Matches to the MAF help us to validate existing MAF records that we have in the master address file including where geocodes are unchanged so you heard Mike describe earlier this morning about the importance of geocodes and what happens if we don't have a good geocode.

Partner data has helped to increase geocoding through the new address information that they've provided and resolution of deficient addresses that we could not previously geocode.

Lastly and most importantly we added addresses that we did not have on the MAF from other sources like the delivery sequence file so I just want to point out a couple of numbers here so we had 30 million addresses submitted by the partner files for the third of the country.; 23 million of those matched to the MAF and of that number, that was 76% of the total for that area but 97% of those had good geocodes but the good news is that we actually were able to update and improve a geocode for 1% so 1% in our language obviously because we're talking about nationwide efforts is a big number.

And 1.3% we were actually able to add new geocodes so I think those are good results as we move forward. State partners result in for us, if we have state partners at state levels, they are much greater efficiencies for processing data. Each file is different that we receive from whoever the partner is and so that requires many steps to evaluate and extract the data.

Once we process a file we know basically at that point how to manage that data or in subsequent updates throughout the decade so obviously we'll not be going out to these folks once only once but we'll be going out to them periodically to get more updates.

For this program we have been able to get 11 state partners and that's the best we've ever been able to do with this kind of data so we're seeing a change in the states but we will never get 50 states' worth of data from the states.

And 11 states is better than dealing with 40,000 governments or 50 states is better than dealing with 40,000 governments but nonetheless our goal is to try to minimize this to the greatest extent possible.

We'll determine in this next year where we believe we will not get data and develop data acquisition strategies for those areas and just along those lines

recently we spoke to both groups, the National Space and Geographic Information Council.

These are the state GIOs and our federal state cooperative program on population estimates. These are our state demographers and we reached out to them and told them that we want them to help us develop this inventory as we go forward so regarding geocoding, I want to draw your attention to in this case the 327,000 addresses that were geocoded from partner thus far.

And if you look at the ungeocoded MAF addresses we had for particular areas for the partner data, that adds up to 21% of the total ungeocoded addresses for that partner area. That's significant for us so that means that that's good data coming in.

When you add this number to the number of new addresses that we have just added the 391,000, we end-up with 391,000 addresses that will now be in the 2020 Census that may not have been there before. So this continual improvement, I think, is helpful as we go forward. So stuck, I think.

So I'll move onto the next one. So for what we have seen thus far, on third-party data, it holds promise for us for validating for what we have. We have received very few instances of new addresses in that data from this source and one of the, one of the observations we're making is that what I'll call their data hygiene is not the best. It's a little bit dirty and it's a little bit messy and so that's something that is going to require some additional work on our part.

This is an example that's on the screen right now of data sources and so it includes both imagery and TIGER data, TIGER data and we're also using GIS tools that Deirdre referenced a minute ago and we're using that as part of our in-office review. You'll see more examples like this in Mike and Pat's

presentation this afternoon but it's helping us to understand what we have and what we need.

So as a result of the efforts to evaluate and address information, to evaluate and improve address information and to pursue the re-engineered address canvassing, the following recommendations were made.

Reduce field work for the 2020 address canvassing. Continue partnership effort to acquire address data. Use imagery as part of change detection. Identify areas lacking partner data and identify other potential sources. Continue developing measures of certainty about the quality and completeness of the addresses. And then to continue to develop tools to assist our partners that are providing information to us in address data management.

We're currently in the field. We're conducting the address validation test that you'll hear about in the next presentation this afternoon. The results of this test are essential for testing our assumptions about the stability and the coverage of the address data so we're looking forward to those results.

As we stated, based on what we've been learning now, we will formulate an implementation plan for a reengineered address canvassing operation as part of our activities for this year. Thank you.

Burton Reist: So we're up for discussion on both of these presentations. Mark.

Mark Daley: There were some cost savings goals that were presented in there. Discuss a little bit about the basis for those and how they were constructed.

Burton Reist: Yes. We have been working with the development of our cost model for a while. In the fall and winter of last year, we were using the Monte Carlo simulation process to explore an array of assumptions across the entire

program and to address those assumptions based on data that we have, based on subject matter expertise to understand relative to the repeat of the cost, or repeating the 2010 Census design in 2020 and what that would cost, what do the assumptions that are built into these areas of change that we talk about, the four areas of change that we talk about, what do those assumptions arrive at in terms of an understanding of what the potential cost savings are related to that?

So we have 83 assumptions in our cost model and we place a range around each of those assumptions as to what the cost would be under again, under repeating the 2010 Census design or the application of the innovations that are under development in order to arrive at those figures. Does that answer your question?

Mark Daley: Does this represent kind of the top level of what your targets are right now?

Burton Reist: Yes it is. It's a stretch goal, but it does represent I think the most ambitious changes that we would implement as Deirdre outlined and what we arrive at in terms of a cost savings, if we are successful in developing and implementing the assumptions, the innovations that we have under development right now.

Mark Daley: Okay. Thanks.

Burton Reist: Sure. Shannin.

Shannin O'Neil: Good morning.

Burton Reist: Good morning.

Shannin O'Neil: Shannin O'Neil, GAO. The past document or at least presentation was great. All the key questions, it was great to have that all laid out there. What I'm not

certain of is how those four key areas and those, these questions relate to the original 40 some odd R&T projects. If you could please talk about that, that would be helpful.

Deirdre Bishop: Sure. Part of my mission in pulling together this test was really to synthesize all of the research and testing plans that were already out there and to summarize it in a fashion that we could communicate with people like yourself. We did a close analysis as to how these questions compare to the research and testing plans.

Where we added questions as we learned more at the start of this process, we went back and we updated the study plans to ensure that we're covering all our bases.

Shannin O'Neil: One follow-up. So have any of the projects, I mean I think there were a couple that were at least halted from earlier budget results. But are any of the other projects being halted as a part of your, the development of this past document in terms of some priority decisions that were made?

Burton Reist: Not really. You know, I think that one of the things that Deirdre did was hone in on, as we have in the whole program, hone in on where work needs to be done directly related to cost, to the cost savings to get to those key design decisions to ensure that we're on track to meeting our obligation to holding the cost to the 20, the cost to the 2010 Census by housing in at one adjusted for inflation.

But there's a lot of work that the research teams are going that go well beyond that around quality, around other elements of change in the program, around refinement to the census design and that work has not been halted. And it's not, you know, Deirdre's document, it's not an overview of the entire work

that's going on with relation to the census, the 2020 Census. It really hone in on those areas related cost.

Lisa Blumerman: Just to follow-up for just a second, as we set up additional team, some of those existing teams were re-scoped. So for example, if we recognize the need to place earlier attention around our ROCS or our ROCKIT effort, that team took on particular responsibilities. And some of the existing teams, where that scope might have been interrelated, it was moved from one to the other, so we did that assessment as well.

Burton Reist: We've also, over the past year, as we've really identified the key areas where we need to be focused on, we've built up some team. I mean the ROCKIT is an example of that non-ID processing as an example of that process. The re-engineering of address canvassing and building-in change detection is a reflection of that. The added addition of communications work in the Savannah site is an indication of really understanding better what are the huge priorities, the significant priorities for the program that need to be honed in on.

Again, though, you know, there's a lot of work that is going on around these areas and in the areas that go around the full gamut of census operations. Others. Ty and Trish.

Ty Mitchell: Yes, thanks, this is great to see this path. I know it comes up that a bunch of PMR's in the past having this together and it's great that you've got one here. This is, thanks for sharing this.

Two questions, I think. One, on the path itself, the key questions, do you see a role in this document or when you deliver things in the fall next year to (John) and whatnot, do you see some, and within some of those key questions like the cost around some of those designs?

I mean I know you've got, you're focused on the cost savings but when you get to actually decide on the cost of designs, is that not a part of, I mean where does that fit in?

Deirdre Bishop: It is a big part of our decisions moving forward. We talked about the preliminary life cycle cost estimates. We used the Monte Carlo simulation estimation method there. We'll rerun those estimates prior to February, the Presidential budget submission and then we will rerun them prior to September when we announce the design decision to see how what we're deciding impacts cost.

We're also doing a large deal of work with quality and especially the cost quality tradeoffs. We have developed a micro-simulator that has been demoed several times in house and I believe will be demoed too for all of you to help us do a full analysis of the quality of the data as we're moving forward.

Ty Mitchell: And the Monte Carlo's and whatnot, you have the granularity to distinguish across the different design options you're looking at with that. So when you rerun them, you'll like remove, you'll adjust all the parameters to the design that you're proposing, the options right?

Deirdre Bishop: Mm-hmm

Ty Mitchell: That's good.

Deirdre Bishop: Correct.

Ty Mitchell: Good.

Ty Mitchell: If I can ask on administrative records, is there one document, one place that lists all of the sources the bureau is, has already resolved or is researching, would like to research with a bunch of columns that say things like we're authorized to use this for research only, we're authorized to use this for evaluation. We're authorized to use this for imputation versus, you know, just removing somebody from NRFU versus actually, you know, using that characteristic, you know.

And then all the way across and even down to whether we think we're authorized and then whether we actually have an MOA, and we know we can use it. Just so you have a sense of when you're testing in 2015, you know that you're testing something that you can probably do or you're testing something that still requires an immense amount of work to negotiate.

Deirdre Bishop: Yes. In my role as Senior Adviser for Administrative Record, I was hired to do that position in May. I have compiled the document. It's a working document that lists all of the sources that we have used in the past.

For example, as part of the 2010 Census match study and all of the sources we've looked at for the 2013 test, the 2014 test, what we're considering for '15, what we're doing in our other areas of the Census Bureau such as our Center for Administrative Records and Research Application, as part of that spreadsheet, I do have columns related to whether or not we have an existing Memorandum of Understanding agreement, if it's an Inter-Agency agreement, if whether I believe what we're doing now is in-line with that agreement; Perhaps we need to make some changes.

A good example is our work with the Internal Revenue Service. We just had a meeting with them at the end of September to say this is the MOA that we have in place. These are the predominate purpose statements that we have in

relation to each of the project where we're using the Federal Tax information.
Do you agree that we're in-line with that predominate purpose statement?

There were a few that we needed to renew and so we're working on that but yes, that is part of my responsibility to make sure that we're adhering to those agreements, that we're corresponding with our other federal and state agencies.

Ty Mitchell: We'll ask you for a copy later.

Deirdre Bishop: Okay.

Ty Mitchell: Third question related to back reengineering head count. Hold on. Wrong page. Trying to identify, okay, on slide 7, Tim, on, there's a wonderful picture, kind of like mapping-out, kind of a decision tree, a little bit on, you know, on how these different things fit together.

I know this is, this has to be a simplification. It's a model. Has to simplify reality but I'm looking at like the top on the top right and the on the left where you're looking at the department file or the commercial files.

That's it. Yes, there it is. That's it. That's on this screen. Is it, what do you do if I mean would you go from that top if you had a no from a partner file, a local partner file directly to the right. If you had commercial sources that covered this same geography because according to this picture I don't see kind of that iterative decision in making, like what if I've got a commercial source that does it instead?

It looks like you would just automatically go right over to the right even if down below you might have had a commercial source covering that geography.

Tim Trainor: Right, so one of the things that we'll do, first of all there's a very simplified version.

Ty Mitchell: Correct.

Tim Trainor: One of the things that we do get is a regular update to the delivery sequence file from the postal service so that's a good source for us. So we're constantly checking that so that's one activity that we're doing. We believe that because the partner are basically providing the postal service with their data, that's why we put them at a fairly high level and we've seen that they are fairly authoritative in what they do.

So they're providing their information to the postal service in general. The postal service doesn't make up the addresses. They get them from the local governments. So if we end up in a situation where we have a void or we can't we don't have information, at that point, then we're going to be going to the, to the third-party data to see if we can fill that void and if so, then we evaluate that data in the same way.

If not, then we'll have to go to some other source and some other source might be that in this case, we look to imagery to see if we have just, we can locate the information. And if not, at the end of the day, that may make it's way right into the field address canvassing, if we can resolve that in field, in office situation.

So as we said earlier in the, in the earlier presentations, there are going to be places where we're sending paper questionnaires where there are also going to be places where we're going to have to do some address canvassing.

Burton Reist: Stuart.

Stuart Simon: Hi, on the admin record, apropos to what you were just mentioning, has any, have you looked at whether some records in certain situations, some sources are, would always be considered a more reliable source than in other records? You were saying before than when the records were in conflict you simply, you know, just said okay they're in conflict and we'll, okay, we can't use anything.

So, has there been a hierarchy, you know, established by looking at the records, say, postal office records are more up-to-date than anybody else's records. Therefore we'll use that information even if it's in conflict with some other source.

Deirdre Bishop: As Eli mentioned earlier, the file that we're looking at now for the 2013 test, the '14 test, consists of the Internal Revenue File, the Center for Medicare and Medicaid Service File, the United States Postal Service undeliverable as addressed and then the Social Security's file.

Those are the data source that are nationwide right now with areas that support our tests. We will evaluate which, each of those contributes to the quality of the data. How often are we able to fill names, facts, age? The Fitness for Use Team that was placed on hiatus last year is back in business now and they're looking specifically at Hispanic origin and race. And then we're also looking at different type of sources, such as commercial sources, to help support the housing unit question, occupancy and tenure.

Stuart Simon: So you're going back and getting sense of which records are more reliable and which situation or which fields of data more reliable, what sources.

Deirdre Bishop: Correct.

Stuart Simon: On the cost issue, it's slightly out of my league but I want to step on anybody because it may have been decided already. Inevitably this induces pressures that cause decision to occur not as timely as you wish they would have.

In your cost model are you already sort of trying to develop scenarios to say well, if this decision gets delayed by X number of months, this is what it's going to cost us. I mean I know it's a pretty tricky thing but...

Burton Reist: It is a tricky thing. It's not so much in the cost model where we're doing that; It's in the risk register where we're doing that, where we're looking at various risks that the program faces and what the cost and quality trade-off are if those risks are realized.

So, you know, we have a risk that we might not be able to use administrative records. We need to quantify that and we need to quantify that based on what it means if that decision is made earlier or later in the decade. And I think that's where we're trying to get a much stronger understanding of what it means to make late changes to the program to make changes to the program as we're moving forward. Carol.

Carol Rice: Thank you. So most of this isn't a surprise to me so I'm happy about that but the one thing that did sort of surprise me, the first time I've seen this was reducing the amount of local census offices by 5%. So in 2010, you had 494 and you're looking to reduce (25) and I guess the other thing, the RCC's were mentioned in here and you had 12 in 2010.

Burton Reist: Right.

Carol Rice:: Was there any change?

Burton Reist: In 2020. I think that there's an iterative process in looking at the reductions of LCO's across a number of the different innovation and I think that those build on themselves. So it's really much, much higher than that. Do you want to add to that or is that accurate?

Deirdre Bishop: For each of the key categories, so for re-engineering, address canvassing, for example, how many LCO's could we reduce if we employ the LCO's for canvassing only? That was one assumption. We had a very similar assumption related to using automation as part of our field operations so it's built upon one another.

And I'm not the budget person but my understanding is that right now our model integrates all of those and moving forward, we're going to be pulling those out as Ty asked, by category.

Lisa Blumerman: So let me speak to that in a little bit of a different way. The numbers that you're seeing in the past document, a lot of the assumption that are there are the assumptions or the parameters that Burton was referring to when we produced our preliminary life-cycle cost estimate. As part of the efforts you'll hear here this afternoon and a little bit of the effort Deirdre talked about this morning, in our field re-engineering area one of the areas that we're actively looking at is how we will change those management ratios, how we will change those staffing ratios and what the impact of those change will be on the footprint and that we will have in the nation and we're still working through that.

We're testing one scenario in '15 and we'll see how that test goes. It will have new technology. It will have new staffing ratios but not to steal some Stephanie's thunder and you may have already heard this. For example, one of the things that we're testing in that '15 test is we are removing one layer of management completely from that process.

Will the number of LCO's be smaller? Yes, I think that's very likely. We have a team in addition to (ROCKIT) that's actively working on what that is and I know they just engaged this week, I believe with the RD's for some of that discussion.

You also referenced the RCC's, we're still having discussions with our Field Directorate about how many RCC' we will have for the 2020 Census but we need to keep in mind, different from 2010, that we have reengineered and changed our field infrastructure. And it's very likely that what we did in the past won't be the same with what we did in the future because it's got to be somewhat consistent.

But those are the very questions that we're working through now where we'll have more concrete information in our September design decision.

Carol: So just to clarify, reducing the number of LCO's by 5%. So could be more than that.

Lisa Blumerman: Absolutely.

Burton Reist: Other questions? Trish.

Trish: I have a comment. It's really exciting to me about what you're doing and I want to make sure it's highlighted here is moving, using technology which has come a long way, you know, and since the last decennial and will continue.

That you're moving into a Real-Time environment where management is going to be more Real-Time and the use of administrative records on a Real-Time basis. That's really very interesting.

And also, okay, I have one question. I can't resist a question for geography. A lot of the activities are the same, you know, you still have to do LUCA. There was in office, remember Carol, there was in office, you know, field review, field quality review. Mascore, is that right? Yes, last decade and it didn't really flourish but clearly the cost savings are, would be, you know, have been impacted by more in office.

Now what is different this decade? Technology is different. How is it going to help? We still have the people doing the work because I really do feel the quality of the addresses and the maps are so essential to the efficiency of the field operations. So how do you see a qualitative difference here?

Tim Trainor: So the first thing is I'm very happy to answer your questions about geography. Anyway, I think it's a combination of things. So one of the things that's happening, I mean first of all we're a data gatherer. We don't, we don't generally create our own data. We have some data we create ourselves in a geography context. Like we delineate statistic libraries for dissemination of the data at the end of the census.

But generally speaking, we're using other people's stuff. And so we're getting addresses from the postal service or from local governments. We're getting road data from the local governments. We're getting that information from them and we're putting it together.

One of the reasons why we have spent so much time in the past trying to make that better is it comes to us in all different forms and shapes and sizes and quality and we try to make the most of it. One of the things that we're observing is that with the increased use of geo special data as a whole, let's just talk about that in general. We're seeing much higher quality data coming from those other sources.

So that's making our job a little bit easier. Secondly, they are following standards that do exist for that industry and we help generate those standards. For example, the Bureau's responsible for address standards so we manage that ourselves. So we're seeing that that helps in that process.

And then the other side of it is the tools are becoming so much more capable and easier to use so that's also helping you do our work. I would say in general though the first, the first thing that we apply to any test that we have it to automate as much as we can because the volume of data and the differences in the data and the characteristics in the data are just so much that it's in our best interests to try to do things in an automated way as much as possible.

And so we do that. We set up systems that allow us to process the data. So when you're talking about for example matching addresses coming in from whatever source for whatever purpose, we have honed the matching software to a point where I don't know anybody that matches better than us and so how do you match data.

And so how do you match data? I was listening to a presentation from the CIO from the state of Colorado and he said, you know, I went into this process thinking that oh, we're just talking about data structures. That seems pretty simple. I was just talking about address data. That seems pretty simple.

And then he started looking at the data and, you know, he got, he got, addresses shoved, all the information shoved into a single field in the file. Well you can't do anything with that. I mean that's not useable. Oh you have to break that out and put it into different records and different fields so that you can actually go through a process such as address standardization, for example.

We develop the code to be able to do that in a meaningful way. So I think we've got tools that are in place. I think we're getting better data. We're getting better coverage of the data. So I think in general the nature of the work I probably not changing as much and that was your leadoff question really. There's still the same work that has to be done. I mean we're talking about the quality of the data, that's what we're focusing on and the coverage of the data.

So if we can assure that we have good coverage and we can assure that we have good quality of the data then it make the use and the subsequent processes that use that data much more efficient. If we start out with bad data, we're going to have bad results in subsequent operations. There's no question about that. We've had that experience in the past. That's been the case, so.

Patricia Derr: Thanks.

Burton Reist: Carol.

Carol: Tim, can I clarify when you say 20% reductions, you're talking about all addresses, not just mail back areas?

Tim Trainor: So I think you're referring to the number that Deirdre used. Is that correct? Yes? So that's a number, that's about, that's 20% of the country of the addresses that we would canvass. That's what that's based on. We're still working to see what those numbers look like because that's obviously an estimate. We don't have full coverage yet in terms of all of the address information. Remember I mentioned that we've brought in a third of the country, a third of the addresses for the nation?

So we're looking at the data to measure what that looks like and it's in and around that 20% so that's kind of where we are at the moment. Any others?

Burton Reist: Any others? All right. We're a little bit ahead of schedule so why do we go ahead and break for lunch and come back at 1:35 p.m., 12:35 p.m.. Not 1:35 p.m., 12:35 p.m.. One hour for lunch, not two hours for lunch.

((Crosstalk))

((Crosstalk))

Burton Reist: So welcome back from lunch. Good turnout from after the morning session. So this morning we did an analysis of the early results from the '14 test and then the path document and then the recommendation on address canvassing.

Now this afternoon we're going to do a deep dive into the test we have planned and one test that's underway already for 2015 that I think lays the groundwork which shows us how we truly are going to move through the pat document to the decisions we have to make at the end of the fiscal year.

So we'll have Jill O'Brien providing an overview of all of the testing activities we're doing and then we'll jump into the validation test followed by discussions of the '15, 2015 census site test planned for a census date of April 1. So I'll turn it over to Jill.

Jill O'Brien: Thank you, Burton. Good afternoon. I am Jill O'Brien and I'm the Testing Coordinator for 2020 and what I would like to do is to give you an update, high level update on the plans for 2015.

So just to reiterate when we met back in June, we talked about the proposed testing activities for 2015 census test. And to go over again at a high level, the purpose of the 2015 testing activities are to focus on the major design decisions to reengineer the roles, responsibilities and infrastructure for the field.

We're going to test the feasibility of fully utilizing the advantages of planned automation and available Real-Time data to transform the efficiency and effectiveness of data collection operations. And we're looking to perform the performance of the methods and models that will help us develop the address.

We'll test the use of aerial imagery or change detection and assisting in the delineation of the reengineered address canvassing workloads. I showed you

this graphic in June but I wanted to know a couple of updates. Previously, we referred to our current address validation test as the math model validation test, a partial block canvassing test.

And we've updated the name here. The actual test is the address validation test where there's two components. One is the full block canvassing operations which we've provided and in previous presentations have talked about as the math model validation test.

And the second component will be the partial block canvassing test which Pat Cantwell and Mike Ratcliffe will address at the session following my remarks. We have kicked off and I will give some updated information after I've described the other three high level tests.

Also, we have the 2015 census test which has a planned Census Day of April 1 and that is the test we announced this morning. The site will be Maricopa. We're also going to have an optimizing response test which will which will also have a 20, April 1, 2015 Census Day and that is the site where we will be utilizing Savannah and the surrounding counties in South Carolina.

And then we're going to have the national content and self-response test with a planned date, Census Day of September 1, 2015 and we should not that this will not, this test will not contribute to the design decision. Oh, oh, what did I do?

So just to give you a high level summary on the address validation test, this test is going to inform the performance of the messaging models that will help us to develop the address list. We're going to test the use of aerial imagery for change detection and implementation of partial block canvassing as an alternate for full block canvassing and it's going to assist in the delineation of the reengineered canvassing workload.

And as you heard this morning, we had a presentation regarding the reengineered address canvassing which talked about some of these initiatives as well. And the current status of the address validation test, we have a consolidated field list, field test plan which include both parts. That's the baseline. The full block clearance, we did receive OMB clearance on August 20 and actual operations began September 2 this year.

And I have updated statistic as of yesterday. We had completed about 70% of the block canvassing. The partial block canvass, the OMB clearance is currently under review and field operations, I wanted to note a schedule change. We had originally planned to begin these operations on December 2, 2014 but we have pushed that back to December 14, 2014 for several reasons which I believe Mike will talk about as well. And our operations are scheduled to end on January 15.

Okay. Sorry. For the 2015 census test summary, this test is where we're going to test the feasibility utilizing field operations, management systems that leverage planned automation and available Real-Time data as well as data households that already provided to the government to transform the efficiency and effectiveness of data collection operations.

We will look to reduce NRFU workload and increase NRFU productivity with administrative records, field reengineering and adaptive design. We will also look to test operational implementation of the bring your own device option for enumerator. The current status for this test, our federal pre-submission notice was posted on September 2, 2014. The comment period close on or about October 31. It might go up to November 2, which I believe is a Sunday.

Our OMB clearance package is currently undergoing internal review. Our high level, both our project and our capability requirements have been

completed. Our low level solution requirements are under development. We have a field test plan that is in draft and is circulating for internal review and as we stated earlier today, this is the Maricopa site we've always reference and we're going to have an April 1 Census Day.

In the next 90 days, our goals are to submit the OMB package for clearance. We're going to have an integrative schedule completed in baseline. Our field test plan will also be completed in baseline. We will have the completion and base-lining of the low level solution requirements for the system and we'll also begin to prepare for user acceptance testing and system readiness activities for our systems.

And following, Mike and Pat's update on the address validation test, there will be more discussion regarding the 2015 census test and that will be from Melissa Therrien and Stephanie Studd's. Moving forward, I'll just give you some high level information regarding the 2015 optimizing self-response test. The purpose is to conduct early research on the use of advertising, promotion and outreach to engage and motivate respondent.

We're going to determine the extent to which we will use early engagement such as "Notify Me". We're going to engage the operational feasibility of Real-Time non-ID processing and the potential developing workloads for systems development and we'd like to test the extent to which encouraging responses without a sense of ID will contribute to the national self-response and internet response rate.

The status of the test, our federal register pre-submission notice for this test was also posted on April 2. The comment period is expected to close around the 31st, that weekend. Our full OMB package is going through internal review process at the moment. Our field test plan has been base-lined. The high level project and capability requirements have been base-lined. I'm sorry,

have been completed. Our low level solution requirements are under development. Our site selection was announced earlier today. That will be the Savannah site. And again, we have an April 1, 2015 planned Census Day.

And the final update that you're going to get this afternoon from the staff will be from Jennifer Reichert, Evan Moffett and Stephen Buckner where they're going to talk about more in depth on the specifics relating to this test. In the next 90 days we will submit the OMB package for clearance. We will have an integrated schedule for this test and it will be base-lined.

Our field test, our test plan has been base-lined already. Our low level solution requirements will be completed and base-lined and again, we will prepare for user acceptance testing and system readiness activities. I just wanted to give you some brief updates on the status of the 2015 national content and self-response test.

This test is going to use a large national sample to ensure a representation of race and ethnicity groups. This test will inform the language support plans and assign estimates of national self-response and internet response rate. Rates in Hispanic origin testing will focus on separate versus combined question structures as well as a category for Middle Eastern and North African.

And the content interview will include a subsample of respondents to include accuracy of race origin and household coverage. The status at this time is our test development is still in the initial planning and developmental stage. Our federal register pre-submission notice is currently undergoing the internal review process at census. Our field test plan is under draft development. Our business process models are also under development and we do have a planned September 1, 2015 Census Day.

In the next 90 days, we will submit our OMG package for clearance. Our field test plan will be completed in baseline. Our business process models will be completed in baseline. Our requirements project level and capability will be completed in baseline. And our solutions requirements will be drafted. And our schedule, we expect to have the integrated project teams finalize their schedules and then we'll expect to have the systems themselves finalize their schedules.

One other thing that I would like to note is on Monday we are going to have, the Census Bureau is going to have the first 2020 Census briefing which is going to focus on the national content test. Information will be available on our Web site. It will be available by Webcast so invite you to look there for the information if you're not already aware of it.

And that's all I have at this time.

Pat Cantwell: Thank you, Jill. Mike and I are happy to be here today and we look forward to your questions and comments. This morning you heard Deirdre talk about the path design decision and she mentioned address canvassing and re-engineering and she mentioned how the various activities would lead to that decision and then Tim Trainor spoke about some of the work being done in the geographic area dealing with addresses and data and other things.

Six months ago at a PMR, we talked about some of the statistical model that we've been working on so I'm not going to cover some of the things you've already heard before. What I will do, what we will do is first I'll talk about our plan for address canvassing, some of which you saw this morning just put in a little different package. And then I'll give you some information on the first part of the address validation test. This is what we've been calling the MAF model validation test.

And in Michael's talk, most of the time he'll talk about our geographic activities. This will include imagery based analysis and how this leads to our partial block canvassing. And then we'll give information on Part2 of the address validation test. This is the partial block canvassing part. I think everybody here is familiar with these abbreviations before we revert to them so often, the master address file or MAF delivery sequence file, all of which have been discussed this morning a bit.

And I put address canvassing here as well because address canvassing is a procedure where we take a list typically from a MAF extract and we try to validate the addresses, update them, make additions, deletions as necessary. In the past we've thought of this as an activity that's in the field shortly before the census. In this decade, we're talking about address canvassing during the decade in office and in the field.

So this morning, you heard a lot of this. This the way I think of it with the six steps of address canvassing. We started with over 11 million blocks. And for specific areas of the country, we wanted to be able to deal with these with alternative procedures. So this morning you heard about federal land, national parks, federal forests, military reservations.

If we can get the information that we need from these, the list of addresses and more important the change in those addresses, if we can get them from federal sources, this can be taken out of the infield canvassing work. We also have many water blocks. We have, we're, right now we're working on the blocks that will not be in the mail-out, mail-back operation. For this, we're thinking about a procedure which will combine a canvas, an update to the address list and then an enumeration and as was said this morning, there's no need to go up there twice to do the canvassing part of it. So if we can get 3 or 4 million blocks out of this first part where we can deal with them in a different way,

then we're down to maybe 7, 8 million blocks. And this lead into steps two and three which are probably the critical ones here.

In these steps what we're trying to do is trying to develop for any particular area, perhaps a block, a score or a measure, maybe a probability of some kind of change that's happened out on the block that we haven't detected yet. And the idea is to try to assign some kind of score like this to all the blocks in the country. Now in step two, we deal with this in an automated fashion. Statistical modelling comes in here perfectly.

Geographic activities such as automated imagery and other activities also can work here and they can work together. The idea is to pair the list of blocks. Now typically what we expect to happen is that for some there will be a score which is very high. These scores have to go to the field.

In other scores where we're saying there's very little chance of any kind of change here perhaps because this area's very stable or for other reasons, if we can knock off the top part and the bottom part, this lets us deal with the middle part. That's always the most difficult part where the probability of something happening is in between so we have higher chance of false negatives, false positives.

If we can make this part manageable and send it to step 3 where we deal with the clerical work, the interactive work where humans are intervening here. Machines can do things faster than any humans but the people themselves can see some things that the imagery or the model can't pick up itself. So in step there, we're doing a similar thing but with human intervention here. And finally we're left with which blocks need infield work?

Well going to step four, we've had a bunch of blocks, a list of blocks that we want to assign to the field however that's not the last step there because we

may have a cluster of blocks right here that are designated for the field (unintelligible) 10 miles over here with the chance of some kind of change that we haven't detected. Do we want to go to that block 100 miles away if the chance is not that large but it's above our threshold where we may have some other blocks that are much closer and maybe their score of probability of something happening is just below the threshold?

So in step four, we want to use operation research type of procedures to try and make this more efficient looking at the tradeoff between the quality and the cost of doing the canvassing. And finally the fifth step and in the fifth step we have a list of blocks that are going to the field for work but do we have to send the entire block to the field? This is where partial clock canvassing can come into play. And Michael gave you some examples of what we mean by this and how it might work.

And step six is the infield work. Now during the decade between now and perhaps 2019, the steps that we're dealing, that we're applying for address canvassing can be very similar but we have more options if we have more time before the end of the decade. So, for instance, in the middle here, when we have to make those choices on the more difficult blocks or sets of blocks, we have more options at that time.

For instance, perhaps we think there's a fairly good chance of something going on in a particular block or set of blocks but maybe this is something where we can get an update from the DSF to give us more information. So in this case, we can monitor this block and wait until the next update from the U S postal service with the DSF and see if that's been captured, same with other type of things.

We may want to send a set of blocks or an area to the partners. This morning you saw the map that Tim put up about our partner. Both states, in some cases

counties, tribal governments, others. If they can help us and provide updates to these sets of areas, then we don't have to end something to the field at that time. As you move closer to the end of the decade, there's less time and then we're more into that binary decision, deal with it in house or send it.

So you saw this diagram this morning. This represents a depiction of our address canvassing. And we think of it as in office work and in-field work - the office, the automated part and the interactive or clerical part. The in-field part is partial block canvassing of those blocks might work otherwise it's full block canvassing. And all this goes together to update the MAF TIGER database.

So I'll just say a few word about the in-house validation tests. We're still in the very early stages. This started only, a little more than a little more than a month ago. Part one is full block canvassing. The purpose of this test is to validate the statistical models that we've been working with. So we want to assess these models in two particular areas. How well can they measure error in the MAF and also how well can they define the blocks that will be in the address canvassing in-field work? Otherwise, which set of blocks should go to the field? Which sets of block don't need to go to the field?

Part 2, I'll leave that to Mike. Okay, for part 1, the field implementation, we started over just about a month ago, September 2. It's scheduled to run through December 18 but as you just heard, even at this fairly early stage, we've already listed about 70% of the blocks. I don't want to say that those block are closed out. That's not the case thoroughly and we have quality control procedures going on in the field right now.

The sample itself contains just over 10,000 blocks and this translates into about a million housing units, the sample stratified by the size of the blocks and we did that because the size of the block is highly correlated with the

chance of finding changes to the master address file. We oversampled the larger blocks in this, in drawing this sample.

In the field, the listers have the list, an extract from the MAF and from this they're verifying the addresses on their list, making updates, heading addresses that should have been on there that they didn't find, that weren't on the list and deleting addresses that shouldn't have been there because they're not valid addresses or they're businesses, duplicates, other things.

And finally for the analysis, I won't say much but we will begin paring our prediction from the model to the results in the field. So we're going to taking our models and looking at, for example, our estimates of errors in the MAF, estimates of adds that we would have captured if we had canvassed those block, the leads that we would have found in seeing what is out there in the field.

We're also doing predictions such as, for this 10,000 set of blocks, if that were our universe, which of those blocks would be go to if we were doing only a partial in-field canvas. For example, if we were 20% of the housing units, which blocks would make up those 20% in our sample? And we're looking at various models to see how this works. And not I'll turn it over to Mike.

Michael Ratcliffe: Thanks, Pat. So I'll talk about some of the geographic activities and just want to start by mentioning the work that the geographers are doing, looking at imagery, comparing imagery, what they see in imagery to the MAF and working with other geographical information is, we're working very closely with the statisticians on Pat's staff. So they're working on the models.

So the models are going to help inform the geographic activities. The geographic work will help inform the modelling activities and there's already been quite a bit of interaction between the two groups and that's going to continue through the decade of each area of expertise. And information helps inform the other areas in their work.

So I'll talk about the imagery based methods that we've used. We did do a pilot project this past spring and these are helping, these are, this work is integral. The in-office or a portion of the in-office work that is a predecessor to the partial block canvassing work. As we said, partial block canvassing is a component of the address validation test and we're using imagery to detect where a change has occurred and compare that change that we see in the imagery to information that we have in the master address file to understand where we are deficient in terms of the addresses and the number of housing units.

In this, so in this portion of the presentation, I'll talk, again, I'll talk a little bit about the imagery based review. Give you an idea of and summarize some of the work we've done and give you a feel for how that works and then we'll talk about the partial block canvassing test itself.

The imagery and the geographical work is part of a project that we had, that was, we referred to as the targeted aerial research model and area classification project or TRMAC. That work closed out, that project itself closed out at the end of this past fiscal year, the end of September. That was primarily to help inform geography division's recommendation for re-engineered address canvassing. But we're continuing forward with the TIGER and MAF assessment and clarification project and we're reusing that same acronym of TRMAC, so. We liked that acronym and wanted to keep it.

But this work is critical to establishing the in-office work and marshalling the use of geographical information to help inform the entire process. We'll identify geographic areas that are suitable for in-office canvassing and then areas that need to be canvassed in the field.

And again, as we've heard already, the focus is on decreasing the amount of area, the amount of housing units that we need to canvas in the field and maximizing the number of housing units that we can manage in office through a variety of technique.

And also as part of this project, part of our goal is to identify, obtain and manage the variety of data necessary for this. It's not only imagery but also a variety of information about land use, land cover. So for instance, we're using the National Land Cover database to help us identify different type of land uses, whatever they may be, agricultural, industrial, commercial, and so on to help us understand what's on the ground and then help us understand how things might change or might not change as we move through the decade.

So as part of the, in the imagery review processes and the interactive review and I'll mention in the work we did this past spring, it was all interactive review. We hope going forward through the decade to automate as much as the imagery based review as we can and we're looking at different methodologies and techniques there. So we assess the current imagery compared to 2010 vintage imagery to identify change, where we could see change in those two vintage of image and I'll show some examples as we move in later slides.

We then assess the current imagery in comparison to current housing unit information to identify coverage as well as geocoding issues, so housing unit counts, address counts from the master address file compared to what was on the ground and visible in the imagery. We assessed the imagery and using

parcel unit level data, if we have that available. We do have quite a bit of data for the country on parcel level information and if you're not familiar with parcels, those are, that's the land record, the land information about each unit of land unit.

The property you own, if you own, if you own a house that sits on a parcel and the local government record that information and zoning may be included on it and a variety of other information about that land area. So we're assessing imagery and parcel information to assess the likelihood of stability for future change.

And especially in terms of stability is we can establish that a census block I built out so that means there's no more room for development and here won't be any more development based on zoning classification, that's useful information in helping us determine what kind of what, or how we might manage that block going through the decade.

And then we'll also use imagery to identify obvious errors in our data and we'll see some examples that we've picked up through the review. So this past spring we reviewed imagery and information for 29 counties and within those counties about 22,000 blocks were reviewed.

The counties were elected for a variety of characteristic. Some were partners in the GSS-I, partners that had provided us with address lists. Others from our population estimate program and through other source we knew, had different rates of housing change. Housing unit change.

So some were slow growth, some were fast growth. And other in between, we selected counties. Some of the counties had blocks that are part of the 10,100 sample for the MAF model validation tests. Others had a variety of special

land uses, federal lands, military bases, variety of parks, prions, college campuses and so forth.

And then others were selected based on their urban .suburban, rural mixes. Some were entirely urban. For instance, the city of Baltimore was included. Others were predominately rural and then we had other like Prince Georges County that contained a mixture of, along the urban to rural spectrum.

And this map shows the distribution of counties. We selected, we wanted to have selection from, distributed around the country and again, to try to capture a wide variety of land uses, development patterns, housing patterns and so forth.

So a part of the review, I mentioned we were looking for stability for whether areas were built out and this provides us a nice example of a block of single family homes and as you can see, there's not much more room for development in that block. So as we look at that, at the imagery, look at the change, multiple vintage of imagery, if we establish there's been no change throughout that process.

We compare the number of rooftops to the numbers of addresses that we have in the master address file. We can compared that to the number of housing unit compared to the census and other information,. We could establish, if all of that is consistent, then we can establish that this block is built-out and put that into more of a passive monitoring category.

Identify a variety of events or characteristics that might, or trigger that might indicate to us that they occur, that we might need to look at that block but if nothing, if nothing triggers the review process, we can assume that this block is good and would not need to be canvassed in the field. And we can manage that in the office.

In our review, about 69% of the blocks that reviewers looked at were built out. Now this is a, if you think about the typical suburban neighborhood, it reaches a point where construction is complete and there's no more development. Or there's very little development after that or older urban neighborhoods. There's not much more room to put new housing, you know, in a typical block in Washington D.C. unless perhaps you'd tear down housing or go through a sub-division process, a sub-dividing process.

In this example we can see a block, this is an example of a block with a general data area that we picked up in our master address file to imagery review. The block that's circled has a count of 12 housing unit in the, according to the MAF. Those, the 12 structures in that image are apartment building. Clearly more than 12 units, there's 12 apartment buildings in that block.

So we can pick up and detect, we can detect these types of issue through our imagery review and then comparing the sources and then determine the appropriate path or managing the corrections and the updates. For instance, if this was in an area with very good DSF coverage or a good local had an address file, we would attempt to obtain the necessary data through those means. By the end of the decade if we still have not received corrected information, then we would need to go out into the field to collect that information, it is not coming in through other sources.

In this example, I've included this because the older image is on the left and in the, in other slide the older image will always be on the left, the older vintage. The newer vintage will always be on the right. In this example we can see that in this block there's a parking lot on the far left, to the far left side of that block and then a building has been constructed at some point after 2010.

From the air, we don't know what kind of building that is. We can't tell if that's a commercial office building or if it's a residential building or perhaps both. So we need to look, so as part of the, so the imagery review can't tell us everything we might need to know about what's on the ground but it can provide the starting point for further investigation.

We can look at other sources of data, administrative data. DSF, other commercial information, to tell us what that structure is or might be, how many units there might be if there's residential uses within it and then move from there. In the review from this last spring, in the blocks we looked at, I trust we've lost the image again/

So we're looking at the table here of observed change. About 82% of the blocks were stable so when we compare the imagery, so comparing the two vintages of imagery and then looking at the count of addresses in the master address file. Compared to what we see in the image, the blocks were stable.

This is fairly typical of the landscape, a lot of stability, a lot of consistency, out there on the ground. In about 6% of the block we observed change and that was evenly split between blocks where the change we tracked in the MAF. So 3% of those, of the blocks, the change that we observed in the imagery had also, had also been reflected in the master address file so keeping up to date. That was good. In another 3% thought the change had not yet been tracked in the MAF.

And one thing we need to understand is why that was the case. It may be that we have not yet received information for those areas. It may be usual sources that we rely upon didn't contain information for those. So we need more investigation there to understand why but that may be an indicator of areas where we would eventually have to go out into the field.

And then 12% of the blocks, the master address file contained change but no change was visible in imagery and that may have been the result of geo-coding errors that we've corrected since the census or other corrections made to the MAF. So the MAF was improving in those cases. The imagery obviously didn't have any change because there had been no change. But the MAF was corrected since the census.

Now, let's see, did I move forward? Oh, I think my slides are, my slides are out of order. Okay, let me go back. Here we go. My notes were out of order. Sorry. Apologize. So now we're going to move onto partial block canvassing. So again, this is a component of the address validation test.

As Jill said, the field work is planned for December through January. We moved the date from December 2, the start date in the field from December 2 to 15 because we've moved up the timing of a small field test for the LiMA. We're using the corporate listing and mapping application. We've moved up the timing on a small field test for the LiMA to October/November. That's a full system's test oriented on the partial block canvassing and that will give us an opportunity to go out into the field with all of the functionality that we're planning, give it a test run and then if there are any issues, correct those, adjudicate those and so mitigate any issue at it might arise so that we don't have any problems when we're in the field.

We going to choose, the plan is to choose, select 600 to a 1000 block for canvassing in the field. We're in process of selecting those blocks. We've identified about 400 so far that are good suitable block for partial block canvassing where change was clustered. We're trying to over, those 400 are from within the 10,100 blocks that are part of the MAF model validation test so we're reviewing, we're going to review all of the 10,000 blocks choosing imagery analysis and to the extent possible conduct partial block canvassing in or select as many as we can from within that 10,000.

That would give us two sets of results from field work for those block. So you'll have the full canvass that's occurring now then you'll have the partial canvas results later on and then we can compare the results from both of those operations to see if the full canvass detected or found additional change that our imagery change, did not detect. Imagery can't see what's under the roof so if we're detecting basement apartments or other kinds of uses that we can't see in the imagery but we're finding that in the full block canvass. That will be useful information.

We'll utilize professional staff so 25 to 30 professionals. So we're not hiring staff for this test. So we'll use headquarters and regional analysis geographer, primarily geo-graphic geographer or any professionals who are interested in participating and again, we'll use the corporate listing and mapping application.

Right, so what kind of block is appropriate or do we think is most suitable for partial block canvassing. So where we have clustered change and change has not yet been rejected in the master address file is the classic or the ideal approach. So here we see again, the older image is on the left, newer on the right, we see a block, typical suburban block and you can see that there's change in the upper right, new housing in the upper right portion of that block.

If the MAF contains information for all of the existing houses, the ones that are in the older imagery but not yet the newer ones, we don't need to canvass and validate what we already know to be correct. We'll just go out and collect the information that is needed to update master address file. But not all blocks are suitable for partial block canvassing.

In this case we're looking at a suburban development and as many developments go, housing gets built as the lots get sold. The premium lots get

sold first or the most desirable lots get sold first and built on and then everything fills in as the development process occurs. So in this sort of example, by the way, if you put this in the partial block canvassing to pick up the units that were not reflected in the MAF, by the time you canvas the, to collect the new information, you've essentially canvassed the entire block.

So this would not necessarily be, this would not be suitable for partial block canvassing. We wouldn't save any money. There's no clustered approach here. So this is why we're seeing this as two methodologies that need to be implemented in the field, one full block and one partial block. So, again, how are we selecting? I kind of covered some of this information, how are the blocks selected.

We're reviewing in office. The in-office review is critical to identifying where partial block canvassing would be appropriate. It needs to be clustered and again, just to note, what we're seeing from our reviews as we're going forward both from the past spring and then as we've been reviewing the block from the MAF model validation sample, there's quite a bit of stability around 80% of the blocks that we're looking at remain stable.

Our test objectives, this is really to prove in and understand the methodology. It's more about understanding what we might encounter in the field, how we might set this up as a methodology, collecting the metrics, testing some assumptions on new ideas on directing people to their work. So can somebody (unintelligible) based on a written description or locational information. The assignment is along a street segment or between this intersection and that intersection or between two coordinate or two sets of addresses and so on and so on.

Not our usual approach to assigning work so that's part of the test. And we've done some testing in the field so far where we, or, where, understanding the

kinds of ways that we need to assign the assignment to make it clearer to the worker. We'll collect information, as I mentioned before, to compare to the full block canvass.

We'll collect the metric related to efficiency, cost and so on and then also identify potential issues that we, that we need to address as we develop this for a wider implementation or for non-professional staff and so on; And then to finish up with the analysis, as the results come back in, again we'll work with the statisticians in comparing the results from the partial block canvassing and the MAF model validation test and produce a report of, discussing both.

And our schedule is here. We're in the process of developing procedure and the various documentation, training materials for rolling this out before we got into the field and also continuing to work very closely with the staff developing the LiMA to make sure our requirement are included in the functionality that they develop.

Thank you.

Burton Reist: All right. Before we move onto the next test, let's open this up for any questions or comments. Brian.

Brian Harris-Kojetin: I had a question for Mike. Back on slide 18 where you got some of the preliminary results from the address validation tests. I appreciate your having these because, you know, hot off the press. I'm assuming though that this is kind of a preliminary look and that's, or maybe I'm misinterpreting what this is.

Michael Ratcliffe: Yes.

Brian Harris-Kojetin: Yes I am.

Michael Ratcliffe: Yes.

Brian Harris-Kojetin: Okay.

Michael Ratcliffe: Yes, these are not from the address validation test. This is from the imagery review that we conducted last spring.

Brian Harris-Kojetin: I'm sorry.

Michael Ratcliffe: The 29 counties.

Brian Harris-Kojetin: Right. I'm sorry. I misstated that.

Michael Ratcliffe: Yes.

Brian Harris-Kojetin: But, let me clarify what this is showing. So when you have the line here saying that you observed change in the imagery of review of change, not necessarily that it's the exact same change. So of the 3%, half of those could be well, imagery found something changed here but MAF corrected something else in that block.

Michael Ratcliffe: Well it's, we're looking at a...

Brian Harris-Kojetin: Or is it really a housing unit?

Michael Ratcliffe: Yes it is a housing unit change. Yes.

Brian Harris-Kojetin: Okay.

Michael Ratcliffe: At housing unit level. So we had the MAF spots and we had the address information at hand so we were looking at the addresses. We were looking at the addresses that were seeing. So why not do is look at the addresses associated, because we weren't looking, we weren't going into the field, we weren't making a connection between the addresses on the houses that we were observing in imagery and the addresses that we have in the MAF. So at the address level, there may not be, we may be deficient still. But in terms of the housing itself we had, we had matches.

Brian Harris-Kojetin: Okay.

Michael Ratcliffe: We had, the numbers were correct.

Brian Harris-Kojetin: Okay. But it seems to me that we're missing lines here where change was, if this is a block level analysis, it would seem that there would be some blocks where there was a change in both but it wasn't exactly the same change.

Michael Ratcliffe: Yes, we can't, yes, that's missing from here. We don't have that, having not gone to that level of detail yet.

Brian Harris-Kojetin: Yes, okay.

Burton Reist: Others? Trish?

Patricia Derr: The partial block canvassing is a big departure from ('08), walking over to your right and all of that. So I hope that, and you alluded to this, like how are people interacting with LiMA and their new instruction or like how are the instructions that are going to be developed, by field and so on and training.

I hope that the bureau headquarters is planning to do a lot of observations in the field to see how people get confused, because I know they get confused at

100% going straight around the block clockwise, right? So this is a change and how is that going to be observed by headquarters?

Michael Ratcliffe: Well I can't answer that, how we're going to observe it in the future. I mean what we will observe, we'll collect the information coming back from, the qualitative information coming back from the professionals that are going out in the field this December. How well did they interact with the instructions. So the geographers doing the work in the office will be providing the descriptions for the assignment.

We're also defining polygons that will be visible on the LiMA so in essence defining an assignment space that enCOMPASSes the area that they're going out to. We're going to need, but you're absolutely right, we will need to, as this moves forward, if this moves forward as the methodology and that's part of the decision that needs to come out of the test this December. Would we move forward with this as a methodology?

It will need more testing so it may work well with professionals, with geographers, but it may need additional work and changes or honing to work with field staff. And you can kind of work through a progression, field staff, permanent field staff, then how well it work to somebody, with someone that we hire and put through a training process?

It might not be appropriate in that context. It may need to have somebody with more experience working in the field, more special, more of a special background. These are things that we hope to learn this winter as we conduct the test and then as we move forward in thinking how would we conduct additional tests to get at those issues?

We've already, a few of us have gone out. We did a small field test with the LiMA in this month, September. I was out in the field last week with a

colleague. We're designing the process. We're geographer. We found issues with our own instructions that we'd gone out with. So, you know, this is all instructions, you know, it's a learning process for us as well.

We think we understand how best to describe the assignment. We go out and test it ourselves or have colleague test what we put together. They come back. We did the lessons learned yesterday and, you know, previous, earlier in the week.

How do we have to craft that description? What kind of locational information is working, will work best? What kinds of additional information do we need to provide to the person before they go out even, you know, how much prep time do they need to spend understanding their assignments, the full universe of assignments before they go out into the field?

You know, what order do they need to be placed in in the, in the LiMA itself? So all of these things are going into the planning now for the, we'll test this again in the October/November small field test, hone procedures again and then go out in December and learn even more.

Burton Reist: Trish.

Patricia Derr: I've been wanting to ask a question about change detection. That was a change that was used last decade and it pretty much didn't happen. And now we're hearing it again. You're presenting use of imagery and so on. Are you doing like a sweep of the entire nation in terms of change? How do you, are you relying on just change that are reported, you know, USPS, address change

Are you doing an imagery, somehow, some automated, obviously review of the entire country because it's not just change detection of new things, it's also of old eras that I wonder if this would help with?

Michael Ratcliffe: Yes. Absolutely. Part of the, one of the main reason for the work this past spring with the 29 counties was to set the stage, gather some metrics, get some understanding of procedures and sources to then fully implement a nationwide imagery based review. So that's our plan going forward, to sweep the entire nation and not just using imagery. And change detection is both trying to detect where change might occur and then detect where it has occurred.

And so we're also looking for sources that tell us about change, development that's going to happen or there is expected to happen. So we're looking at information that may be, that may help us from the developer or other sources that will tell us where development is planned, what's expected in terms of the numbers of units to be developed and then if we can get a sense of the timeline for that as well because that way we'll know, can help us know what to expect from our various sources.

And then if we don't see those changes coming in then to further query as to, you know, what might have happened. Did the change actually occur? There's a lot of change, development planned that never, never happened but there's also development that does occur that doesn't end up on our sources. So knowing where things might take place is critical to the change detection process and then obviously detecting where it has occurred and then finding the appropriate sources to use to update the information whether it's in office or in the field.

Lisa Blumerman: I just wanted...

((Crosstalk)).

Lisa Blumerman: Sorry.

Michael Ratcliffe: No go ahead.

Lisa Blumerman: I just wanted to follow-on in recognition of the point that you raised about the fact that you heard about this before at the last census. It didn't really go anywhere. Now, where is it going? One thing that we haven't referenced is that (Tim) in geography division and Mike, we've actually stood up a permanent staff dedicated to the work that Mike has been talking about and our commitment to re-engineering (full block) canvassing.

So I think we feel very confident that while we still have to determine the methodology and how we're going to be implementing it, which (Tim) told you about earlier will be happening during this next year, we're committed to what we're looking at doing. It's just the how and all the details that we have yet to work out.

Michael Ratcliffe: So, so one other thing we've been doing and Lisa's right. We have stood up a permanent staff and that's that TIGER and MAF assessment and classification team and they will be working on the imagery based review for the entire nation but also gathering international database which we already had from our urban area delineations.

The other thing we've been looking at is what information have we had in our geographic files in TIGER, in our geographic area information that can be utilized in other ways. So for instance, we had census tracts that are defined by local planner to enCOMPASS special types of uses - military bases, prisons, college campuses, CIA headquarters and Fairfax County is a census tract in and of itself, Dulles airport.

So we can utilize all of this information to understand what's on the ground and then make decisions as to what's the appropriate operation. You know, if

we know that the local planners have defined a track specifically for a prison then that's good spacial information about the location of that group quarters.

And we know that. We've gone through a process already to verify that those tracks, that they tell us contain those kinds of uses actually do. We used imagery in that regard to verify. We've also delineated boundaries for prisons, college campuses and so on. Even when they weren't covering the entirety of a track through the entirety of a block group, we now have the boundaries for those uses in our system and we can use that to help us classify the landscape and then re-engineer the address canvassing operations.

Burton Reist: Ty?

Ty Mitchell: Yes, thanks. Yet another one of these area of research that sounds very, very interesting. It sound cool to be working with it so thanks for sharing. I thought Trish's question almost made mine go away but let me just ask it anyway because every method's going to have noise or every method's actually going to have blind spots, more like a bias type thing.

And I guess my, what was behind my question is, you know, will you rely on modelling primarily versus will you rely on an imagery review primarily or whether the imagery review is going to be automated primarily versus clerical primarily. You know, push comes to shove, not everything's going to get treated exactly the same so either the tests that you're doing now or the tests that are on the book are going to be structured in such a way that helps you identify where those holes are.

So less of a modelling versus imagery kind of test but more of a, you know where are those blind spots because you know, when you do have them there's types of housing, maybe they're correlated with socio-demographics. Maybe they're not. But, you know, (unintelligible).

Man: Yes, so as I mentioned earlier, you know, imagery can't tell us what's under the rooftop so where you have a commercial to residential change in the downtown cities. And we know that happening in D.C. It's happening in Baltimore and other cities throughout the country. Imagery's not going to, imagery's not necessarily going to help us understand what kind of change is occurring there but the models may. In pulling together a variety of other information, they might point us to that direction to the changes there or other non, other source of information that are non-geographic, non-imagery based, can point us there.

So, you know, let Pat speak too.

Pat Cantwell: Sure. From the statistical models in our sample, the sample that we're taking for the first part, the mass model validation part of the MAF model validation test, we took a sample of all the blocks in the country. It's representative although doesn't include Alaska, Hawaii, Puerto Rico and many of the federal lands.

But we sampled from all the different, all the different straight of blocks so that we have, we have cases where we expected a large number of errors, many other cases where we expected little or no errors. So, otherwise, we're trying to look at all four part of it although I, we're already expecting to see much, we're not going to see it and we're going to see where did we miss, where we expected a lot but there was nothing there. Plus the other way.

So we're looking at, we'll be looking at these false negatives, if you want to call them that and false positive and try to associate them, if we can, with specific types of terrain, other characteristics whether it's socio-demographic but probably more likely geographic.

Michael Ratcliffe: You know, if we think about the, kind of the iterative process of the two groups working together, the modelers may, will come up with their predictions as to where change may occur. Maybe we test some of that in the field. We find out that it wasn't, for some blocks that it wasn't correct.

We then go back to the imagery and other geographical information to help us understand what other, what's the context for that block. What other kind of information could we have used, might we have used to help inform the models acquire that, compile that information, feed it back into the models, see how the models perform and keep moving back and forth.

But, you know, there will be areas where the models will perform better than the imagery because imagery can't detect the changes. They'll be others, other areas where the imagery, we may find that imagery is better than the modelling because of the nature of the changes occurring.

Ty Mitchell: Is there literature out there or some experiences that have wrestled with this that already have some priors on what your modelling is or is not going to have in blind spots versus the imagery? I mean that you can actually get some data on with the testing that you're doing? Have you tried to wrestle with all the hypothesis yourself, you know, in figuring it out?

Michael Ratcliffe: Well we've had some initial discussions with, well in terms of automated change detection and imagery extraction, we've talked with folks at Oak Ridge National Labs. They had used some of our data from 2008. We had compiled a list of blocks that had 10 or more trailers observed in address canvassing, mobile homes, trailers.

They use that information, so we provided them with the blocks that contained 10 or more. They used that to calibrate their automated extraction process. They're going to give us then the file of blocks. If they run that imagery

extraction every year, they'll provide us with the information, the list of blocks that contain trailer parks, mobile homes so we can use that then to in the modelling process a well..

We can also, I mean we'll continue discussions with them as to what kind of modelling they've used before to help us, help inform our thinking.

Pat Cantwell: Sure and also these tests are building on research that's already been done, a lot of it done on work from the 2010 Census and the address canvassing result. So back in 2009 we have results, everything from the canvassing. Not that ever particular case was done exactly perfectly. In fact in some cases, we're looking at results as we saw following on the coverage measurement survey and we had some follow-up.

But on this, we've seen a lot of the characteristics that were common among the cases that had problems and we used those in models that we build back from the 2009 data. What we've been doing since then is we're trying to use additional variables such as mainly those that have to do with geography such as some of the things that Mike was talking about. Variables indicating stability, something that's built out or has it been changed nearby.

And we're working on getting those files together. We think they'll be good predictor and we hope they'll be making the statistical models tighter.

Tom Lewis: Tom Lewis, just a quick comment. I think it's implicit but I want to make it explicit that it's not an either or between the models and the images, that they will inform each other and iterate to be better but in the end, it's the combination of the image and the predictions from the model that can be used to make decisions on canvassing. It's not an either/or kind of thing.

Patricia Derr: What path does the in-field technology, what are you envisioning for that? The canvassers, what are you envisioning? Right now, at LiMA, is that, that you're going to be using?

Michael Ratcliffe: Yes, that's what we're envisioning now. Whatever the corporate listing application is is what we're envisioning and using. So, the LiMA this time is going forward.

Burton Reist: Yes, as Mike said, we've done a lot of work to ensure that as LiMA move forward, the requirements that they're working off of are the 2020 requirements. And I think one of the advantages of getting this partial block canvassing and test in the field as part of this test is it ramps up that process of ensuring that the requirements are fulfilling 2020 requirements. And Mike made reference to that earlier.

Michael Ratcliffe: Yes and the LiMA staff have been extremely helpful and responsive. This is, you know, partial block canvassing came about in a very short amount of time. We've been working on it only since May and so they've incorporated our requirements into their designs to make sure we have successful, that we have appropriate designs and successful functionality for December.

Patricia Derr: What would you say is the biggest one or two requirements that rippled through the most in the current LiMA software?

Michael Ratcliffe: Well I'm not familiar with all of the LiMA software so I really can't answer that. I mean I've only really been using it and have used it once for this partial block canvassing small field test.

So I mean as far as us, for our use it's the ability to note the location of a housing unit, to note the kind of change...

Burton Reist: Tim.

Tim Trainor: So what I would say is one of the most important requirements for the LiMA as it made its way forward was to have a standard set of requirements for all the different census and survey work. So the goal there was to take all of the different activities that one would engage in, the different census and survey activities within the Bureau for listing purposes and we brought all of those folks together and we worked through very detail requirements and got a consensus on a set of core requirements that would be used in all census and survey work so that the basic requirements would be the same.

This is not something that we've done in the past. And this is something that we realized had to be done in the future. Now there may be some very special characteristics that are required for different operations even within the census. So in some cases you're doing a canvassing where you go around the block and in other cases you may actually be going to specific housing units within that block.

And so, maybe those requirements differentiate a little bit but the core set of requirements are the same. So I think that was the biggest factor moving forward with determining requirements or the corporate listed and mapping instrument.

Burton Reist: Any others? Okay, let's move on. Let's now take a look at what we can now call the Maricopa test and the work we'll be doing around NRFU in that test with Melissa Therrien and then Stephanie Studds.

Melissa Therrien: Hi, how are you? So I'm here to tell you a little bit more about the plans for the 2015 census tests. As you've heard multiple times already, it's going to be in Maricopa County. This test will be similar in many ways to the 2014 Census Test so some of the parts I might go over a little bit more quickly than

others because you kind of heard a little of it this morning when Eli was describing the 2014 Census Test.

As Jill told you earlier, we're really planning for this test to focus on the planned automation, the Real-Time data that we get out in the field and data that households have already given us through administrative records. And to improve our efficiency and effectiveness in the field during NRFU.

We want to focus mainly on reducing NRFU workload and increasing productivity of the enumerators and Stephanie will talk more about that later when she gets into the field reengineering portion.

For administrative records, this has not really changed much since the 2014 test. We're going to be evaluating using Real-Time data through leveraging mail delivery information from the USPS to help determine occupancy status of our households and we're going to try, well we planned on trying to replicate what we would see in the 2020 Census, using an April 1 census date.

But we thought maybe we might be getting the most up-to-date IRS tax records in this test but unfortunately we won't be. So we're going to be planning on doing, trying to figure that out for the future testing but this year we'll be getting 2013 tax records to rely on and so we're figuring out right now how to use tax records and information that we have in the best way for the 2015 census tests.

We again are going to use it to identify the occupancy status of the housing unit and the characteristics of the people living in the housing unit. So where we're doing more work for this test is in the adaptive design. And we had one method in the 2013 census for this test and after the 2013 census test we learned some lessons and we went forward with the 2014 Census Test. And now that we're seeing the results from that test, we're learning more lessons.

So one of the things that is staying the same that we're still going to conduct up to three personal visits before using a proxy but now we're going to in essence float the maximum number of visits determined for each housing unit using Real-Time stopping rules. So the stopping rules are going to factor in the completeness of data that we're getting in geographic areas in the field Real-Time. We're going to be looking at the stability of that data over time and the more attempts that come in for each case and we're going to be benchmarking against other sources such as the ACS.

So what this means, in essence, is every day that we get data in during NRFU, we're going to be looking at that data. We're going to be looking at the invitation rates that certain geographic areas might be - we we're going to using that information to help us determine, do we need to keep going back to this area or, you know, do we have enough information from this area to stop?

So we're looking at that right now. We're still in development. We don't really have one set way that we're planning on doing it but we're definitely looking at different options.

One of the reasons why this might be a little bit more interesting is because in the 2014 Census Test and the 2013 Census test, we, you know, have obviously been noticing that and enumerators are having a hard time following instructions on recording contacted attempts.

And so we're managing contacted temps and trying to max- to use a maximum number of contacted temps based on numerator information. It's a little bit difficult so we're trying to look at different ways in which we can under- determine when we are - when we're done with NRFU.

Okay. So a little bit more about the actual design of the panels for the census test. We will have about - we've planned for about 60,000 non-responding cases. These will be equally distributed between three different panels.

One would be the control panel. And we we'll have two experimental panels. And in the two experimental panels, we adopted design and administrative record treatments that will be applied, whereas, in the control panel, the field procedures, again, will be similar to the 2010 Census.

The major differences will be, again, that we're using an automated data collection instrument and we will be doing some different onboarding than we have in the past. We're going to be contracting it out hopefully and having a third party help us out with the onboarding.

We don't expect that'll affect, at all, the NRFU process in the field, but it's still a difference from 2010. Again, we'll be - right now, the current plan is to do a maximum of three personal visits and up to six total contacts if the phone number - if we can identify a phone number.

We're no longer planning on giving phone numbers to the enumerators in the fields, so we'll rely on them if they find one, you know, on a - from a building manager, from a for sale or for rent sign.

And we will do a proxy after a third attempt. This panel will use the same operational control system as we used in the 2014 census. So as Deirdre mentioned earlier today, we have a full administrative record for mobile approach.

This will be our second panel. It implements - it will implement it into the adopter's assigned contact strategy that we're developing right now based on

staffing roles. It removes unoccupied and occupied housing units from the NRFU workload before we make any contact attempts.

And it will employ the new operational control system that Stephanie will tell you about in a few minutes that she's been - her team's been developing. So you've probably seen this a few times by we'll go over it really quickly.

We have the NRFU housing units. We use the administrative records to determine which cases can be removed and then we conduct contacts on the remaining cases and we have some that are resolved and some that are left unresolved.

And part of that was what you've heard this morning with Eli, the non-interviews. So we'll have to pay close attention to that going into 2015. Okay, and the third panel is what we refer to as the hybrid administrative records removal panel.

We're going to be implementing again the same adoptive design contact strategy that's in the other panel. This panel will remove only the unoccupied housing units from the workload prior to conducting any contact attempts and we'll conduct one contact attempt without proxies.

And then with all cases that are remaining, we have administrative records. We'll remove the occupied housing units from the workload after that one visit. And, again, this will - this panel will employ the operational control system being developed by ROCKIT.

So here is a graphic that's showing - walking you through, again, the panel designs. Start with the NRFU housing units, use administrative records to determine vacant, attempt one contact. You have resolved and unresolved. For the unresolved, you use administrative records to determine occupied units.

And for all the remaining cases, you conduct additional visits. So this is new for the 2015 Census test. What we're going to be doing is an evaluation follow up and the focus of this follow up is to get a better sense of the quality of the administrative records that we're employing in this census test.

We expect to follow up on about approximately 5,000 cases where the census test NRFU responses, information from the census test NRFU responses didn't match the administrative records information that we have.

So these would be the, you know, part of the unresolved cases that we want to learn more about to learn how we can maybe improve our administrative records uses going forward.

So some of these cases are where we have housing units statuses agreements, so the unit is vacant. We go out during NRFU and the unit is vacant. But the administrative records might have told us that it was occupied.

So we want to go ahead and follow up on those cases. And the opposite, where we find it occupied in NRFU but the administrative records told us that it was vacant.

So what we're trying to do there is collect the timing of vacancies to understand if, between the time that we would have an administrative record where it might've been filed and reported earlier in the year and the NRFU day, which is later than Census Day, obviously, there're a couple of months in between where, you know, you could have people that are moving so we're trying to get a sense of if these are recent moves or maybe we're just not capturing correctly.

Okay, so we have another set of cases which is where we have population count disagreements. So these are units that are occupied in both NRFU and the administrative records but we have different population counts. So what we're going to do is going to go out. We're going to try to get a - the most accurate roster we can for the April 1 date.

And then we're going to see if - which roster matches better - the NRFU roster or the administrative record roster. And the last type of cases that we're going to be following up on, these actually don't rely on the NRFU results but these are where we have administrative records where the most current year that we have and the most previous year that we have before that, their rosters are different.

So we want to try to get a sense of where you have administrative records where the rosters are changing from year to year, is there something we can find out about those units?

So we're going to collect the most accurate roster that we can for April 1 and trying to figure out - and try to evaluate what we're seeing in the administrative records for the two different years. And so that's, in essence, what we're doing. Okay, so I think we're passing it to Stephanie.

Stephanie Studds: Good afternoon. I'm Stephanie Studds and I'm here to share with you the next segment of our ROCKIT which is reorganized census with integrated technology journey.

So I'm very excited to be here today. And what I'm going to share with you first is just, we've really broken the ROCKIT segment down into three core pieces. Our planning, which I shared with you during the last PMR, and really what that was, was we - the team came together on April 1 of this year.

We were able to do our concept of operations and really come together with what we were going to be doing. And just to take a step back and refresh everybody's memory about what came through during that timeframe was really our goal was to increase NRFU productivity by 20%, also provide some key indicators for the cost parameters as we move towards 2020, as well as coming forward with what the buy versus build decisions could also be for 2020.

So the team took a step back during this planning phase and we took a look at aligning ourselves with the 2020 vision and also the assumption, things that people were already actively working on, and then the team said, "Let's develop our plan from that."

In order to get to that 20% that John set out there for us, we had to come up with a plan of how we were going to get there. So today what you're going to begin to see is that implementation of these things - the enhanced operational control system, which many of you have already heard of as (MOJO), automated training, truly moving away from verbatim, automation of payroll in the field.

No longer doing paper payroll. Near real-time reporting coming back to our operational control centers where we can do management and intervention if needed or making decisions on the fly. Our new field structure because with all the automation coming through with our handheld device COMPASS, and then an enhanced operational control center.

There's no purpose in being - using the same management structure we used in the past for paper-based processing. This new field structure is going to show new ratios in 2010. There were five management tiers. We are down to three, moving towards that 2020 vision.

So today what I'm excited to really get to share with you is where we really are in the process. So I'm excited because we've moved from planning, which was always critically important to what the team likes to do the most, which is do.

So that's what I'm here to share with you today. So our ROCKIT journey, as I said, in the implementation core, what we've done is we've looked at three key pieces. We're in creation mode where we've built our operational control system, also known as MOJO which I will share in great detail with you in just a moment.

Our core automated training and our operational control centers. This is where the data will come back from the handheld device and provide near Real-Time information from monitoring and also decision making.

Also you'll see off in the little cloud, if you remember from our concept of operations, we also had a little cloud. During planning and implementation, some core things arose that we used the decennial policy team for.

And that was legal, our staffing and our policymaking. So coming forward with an idea that the ROCKIT team has come forward with obviously has some ramifications in HRD creating new job positions, pay scales. It also comes up with how do we do these new things in the field?

And what we wanted to do early and often was engage policy, involve HRD and our legal department. All of them have helped us tremendously as we've been going through this process.

We truly started implementation in July of this year and during this process, as I said, we've created these items and what we're really striving towards is, our next goal is November. And I'm going to talk about our SIMEX that we're

doing with MITRE which is actually what I like to call our true dry run between - before 2015 production.

And then as we come out of the simulation in November, this gives us an opportunity to take a step back. We're going to refine MOJO. We will - our operational control system. We'll also refine automated training, and we'll have an opportunity to refine, if needed, our operational control center.

So I'll show you those in just a minute. So MOJO, MOJO is our operational control system. It is not an acronym. It's just the name that the team provided for the system. It has three key components inside of it - the optimizer, our management report capabilities and all of our external system interfaces.

I think it's important to point out, again, that Tom gave us a really good piece of advice very early on - walk, don't run. Even if you have the ability to do things, don't do them all at one time or you won't be able to sort out what went really, really well and what didn't go as well.

So the team has taken that very much to heart. So what we're doing is optimizing our case attempts and our routes using the optimizer which is the orange side right here on the left. We are - for our optimizer, we're currently using the (Esre) network analyst module with routing and shortest path functionality.

We're collaborating a lot with external industry and academia sources, as well as working with Capstone projects. We're currently engaged with Carnegie Mellon to deliver some traffic functionality through their civil engineering department in December.

The other thing that's critical to understand in our optimizer is that this is an ongoing and very agile process. So the optimizer is here and it's on board but

one of the key things we've done is we've actually built in our own constructive simulation.

So as we've gone through this process, we have to test the optimizer. We have to test our business rules and our functionality. The key thing we want to be able to use in SIMEX as well as during our testing, is simulated data or what we'd like to call synthetic data.

Synthetic data is supposed to be the closest thing we can get to real data without it being titled. So within our team, one of our mathematical statisticians took it and actually came up with a way to do this based on the research triangle methodology, working with MITRE.

And what we have is the ability now to do constructive simulation for ROCKIT that allows for us to really have a three-tiered or a three hierarchal approach. What we got in there in this three dimensions is the household, the enumerator and our case optimizer, better known as time data.

And what we're doing is using that as we're running our business rules and actually refining our process as we go into SIMEX and into production. And what it's allowing us to do is be predictive. It's allowing us to perform impact analysis prior to going to the field.

It's also letting us change our cost parameters, our case workload, test our best time to contact strategies and, most important, it's allowing us to align with UPS and other external entities to do predictive type modeling for operations in process.

And one of the key things we've learned from academia industry and reaching out to them in the six months that we've been actively working is that it's important to make sure our process works before we add an Optimizer to it.

So that's been core and critical as we've moved through this process. The next key thing to mention is our report functionality. MOJO has a core set of reports for our field managers of operation as well as our local supervisors of operation.

We are managing red. That is the simplest part. We - to really bring this to fruition and what is managed red. I don't want an LSO walking around with an iPad or a tablet looking at reports. They're not data miners. In the six week operation, which is core and critical, is that I can quickly identify the problem areas, whether they be performance, whether they be quality or whether they be something specific in the field and I need to address them immediately.

So what we've done is built a set of reports and alerts. Those alerts go directly to their device. So as a local supervisor of operation, I'm getting my red alerts.

So imagine if you can pick up your Blackberry or your iPhone every morning and not have to go through 300 email messages and right at the top, somebody said, "These are the top ten things you need to address today."

That is the core of what MOJO's going after - how do I manage all these red alerts? And so we can quickly identify them. We can quickly illustrate them and send them out to the LSOs. They don't have to mine the data. The data's there under the seams if it's needed. But what we really want them to do is manage those quick, fast, strike performance - quality, payroll, whatever those issues are.

So this has been done in very much a quick and agile methodology. I would say very agile. And the important part is, is to address and communicate with the field staff very frequently and we've done, I think, a pretty good job of that.

Wayne Hatcher has allowed us that closeness in proximity to the field staff. As I mentioned to you all in the last PMR, we had this huge opportunity to go to Atlanta. We, the ROCKIT team, did not share out ideas for what this would look like.

We showed them COMPASS and the ideas of MOJO on a Power Point slide and said, "In the field, if I were to give you this technology today, how would you manage from it?" And what we came to the conclusion, at the end of day one, was how close the field staff came to looking very much like what the ROCKIT team had put together.

And the exciting part was, each and every one of those team members left the room that night, came back with their homework for the next day, and there was not enough white space in that room for them to continue to draw on the boards that day.

We left that session, came back and really started to build on MOJO. We took it to Denver during the summertime. And we had a skeletal system. We showed it to a core group from all the regional offices in Denver. We brought them all there.

Some had experience in 2010, some of them did not. A lot of them had current surveys experience, all different entities in the organization. We had field representatives. We had supervisors. The cool part of this was they really took to heart this system.

And our team, as the field staff were talking, we were quickly taking down all these things they thought we needed. What we did, was we came back. We basically went through the list and said, "Prioritize high, medium, low." And that's what we did.

In an eight week sprint, we were able to do all the highs and the mediums, integrate those to MOJO and about two weeks ago, we took that to New York, brought back the same 20-some odd staff to New York, had the ability to release MOJO yet again for them to see.

They were amazed at how well all of the things they had asked for had come into play. They were really comfortable with what they saw and, of course, came out with some more refinements they'd like us to make.

So what we did, coming into our simulation, in November, we came back and said, "What are the critical items we must have moving into the simulation?" We've integrated all of that and as of Tuesday, we've frozen that system and ready for simulation.

Last but not least, is our external system interfaces. MOJO will, in 2015, integrate with six external facing systems throughout the bureau. The ISA CDs have all been drafted at this point. We're waiting to finalize the alpha record layouts or the file layouts at this point.

But the critical thing is we've already begun the integration with those external facing systems. Next is automated training and I'm really excited because at the end, I'm going to get to show you guys a two minute video.

We've done our audition for actors to do our moving away from verbatim training. So I'm going to show you a short clip. It's really exciting because Jenny Kim, who's leading our training team, has had the opportunity.

They picked the actors and we're actually going in the field to do all of our taping next week or beginning to. But I'll get to show you a two minute

segment. Keeping in mind, as we talk to, during the concept of operations, our FML, our LSO and our enumerators are all going to take online training.

The important piece of this is we've begun the creation of the curriculum. We're building our multimedia content with a vendor. That will contain videos, multimedia pieces and narration.

And then the final pieces will be delivering that to the commerce learning center, so just as all of us take our training via CLC, that's how these individuals will also take it.

We brought on interns from the University of Maryland's education program. they're all Master and PhD students. They've really helped us begin blend a learning method to administer our training and held a storyboard and really moving that direction.

So this wasn't just the ROCKIT team sitting in a room going, "How do you think we should train?" We actually reached out and brought in some - they're just really, really stellar interns from the University of Maryland.

We will also, in our training that you're seeing here, for the first time in 2015, we will release our training, not only online but our one-day touch point, we'll invoke master trainers.

So we won't be just using someone that we bring into train us potentially in enumerator and LSO, select them to be the person that does the training. This time we will be using our master trainers.

It's important to note that the enumerators will do all their training approximately eight to ten hours online. We're looking at approximately 16 modules, give or take. Those will all be video segments that they'll have the

ability to play back via computer, their device, throughout the rendition of their work in the field.

So it's kind of, like, me. If I have a moment and I can't remember how to do something on a device or my iPhone or an appliance, I can quickly go to YouTube, bring it up and execute it.

So that's the capability we want to give these individuals. Our LSO will take the enumerator training, plus their training and they'll learn MOJO as well. And then finally the FMO will take the enumerator training, the LSO training and the learn how to use MOJO because it's kind of hard to be a supervisor in the mainstream of things if you don't know what's being expected or how the enumerators are being trained.

So we want that to be a congealed process. Next is our operational control centers. So there will be two operational control centers during the 2015 test. One of these will be here at headquarters. The other one will be in Denver. Although the test is taking place in Maricopa, we will be managing field operations from the Denver regional office.

This gets us close to that model we're looking to do for 2020. It's important to note we have done this as a mobile configuration so we can move it as needed. All of the configuration is complete at this point.

All the acquisition is done for the one here at headquarters as well as the one in Denver. The equipment has arrived here at HQ for the most part, and we begin construction next Tuesday.

Our SIMEX, so as I said, the simulation is important in my opinion, to the overall success of the project. So we have teamed up with MITRE to do what we're considering human in the loop.

So MITRE's worked with other DOD agencies. So in the event of a terrorist attack, how do people react? So it's a simulation of how, in large scale operations, how do you react making sure that you can do the things that are required of you when these types of things occur?

So we're basically using a combination of scenarios that was put together from the field. So we met with the field in Denver. We came up with approximately 84 real life scenarios.

We have developed with MITRE, not only the content for the scenarios but how often we will send those through the simulation so that we can react to those as well as the synthetic data.

Take a step back to a moment when I mentioned ROCKIT has a constructive simulation. When you're doing a simulation, imagine in November, the operational control center's up. Our FMOs and our LFOs, all of our management structure is sitting in front of these.

This will look just like it will in Denver in 2015 and just like it will here at HQ. What MITRE will do is facilitate sending scenarios through the pipe to us. The data had to be constructed. However, in this simulation module, to be able to allow us to act out these scenarios just as we would in the field.

So when we call up a scenario, it's not just about reading off a script as an enumerator or as a manager, we have to have the data to fill MOJO because they will actually put - be fulfilling the jobs just as they would in 2015.

What does this give us the core capability to do? It gives us the core capability to understand, do our staffing ratios work? Because what we've been told so

far by the field is, they believe they can manage somewhere between 15 and 30 enumerators versus the 8 to 10 they were able to manage in the past.

Why is that? It's automation. But we want to get a good feel for what that real ratio is. This gives us that core capability. In recruiting for the SIMEX, what it's allowed us to do is reach out to the field, so we're using approximately 100 people for this simulation.

Many of them will be in the field, working from their homes just as they would in production. All six regional offices are engaged. They have provided staff from either the current surveys or people who worked in 2010 to be the roles of enumerators, LSOs, FMOs.

So that entire structure is coming from the field. We've also engaged the decennial directorate as well as the field director to provide individuals to also interact. So we get, yet, another kind of view on how this whole simulation is going to be done and anything they might see as things we would need to address prior to going to production in 2015.

So there will be about 100 people interacting. We've recruited those and we are well on our way to preparing devices for delivery, training and things of that nature.

The infrastructure build-out here at headquarters is ongoing. As I said, we've got all the equipment. We're building out - beginning our build on Tuesday in the Center for Applied Technologies right down the hall here on the main level. That's where the SIMEX will be.

We've also - have all of our servers, all of our infrastructures ready to go. We're already using that infrastructure here. And finally, as I mentioned, our synthetic data. The ROCKIT constructive simulation that we've worked very

closely with our mathematical statisticians here and MITRE to create is unique in that it's three-dimensional.

There was not a model like that here prior to this. And the model creating this data is core to the success of this actual simulation. So we could all sit in the room and act out our roles but we need that core data to look and feel like Maricopa County in 2015 so that MOJO can ingest what's being simulated coming back from a COMPASS device, in answering a phone call from an LSO and looking at heat maps and seeing where we have not moved enumerators into specific areas and how we'll manually intervene to fix those types of issues.

So this is core in us moving forward. To me, this is truly my dry run before we hit 2015 production. So in November, they will have a week of training. They will have classroom training which we're doing via virtual teleconference the 10th and the 12th of that week.

We will do all of their training via virtual teleconference. I'm not going to bring everyone into the field here in HQ for a day or two and then send them back. So this will give us an opportunity to evaluate how well this training is going to work at a distance.

That Thursday and Friday, we will dry run with MITRE some of the simulation scenarios and then the week of the 17th to the 21st, we will run eight runs of a simulation here at headquarters with the MITRE white cell and this will be able to give us that ability to see, you know, where can we refine.

If you remember back to the slide I showed a few minutes ago, how critical refinement's going to be. So I feel as though, at the end of every day, when we're doing these debriefing sessions, I'll have a very good idea of where my

operational control centers need to be adjusted, where our MOJO system would need adjustment and refinement, as well as the automated training.

To touch on the training for just a moment more, we plan to take, after the simulation is over, the first eight modules or nine modules -- I apologize -- to Chicago regional office to share with them, the video components of the first nine.

And then after all of our SIMEX and our dry runs and that's finished, that'll give us an opportunity to, again, with the refinement of MOJO and the training, then take it to LA in February.

So at that point, we've taken a pretty strong approach in engaging field and getting their feedback prior to us releasing this in Maricopa for May 18 as our start date.

Finally, some of our key milestone dates - the green to the left are completed at this point. My big upcoming deadlines, as I said, our next eye on the prize is going to be the SIMEX in November, completion of all the online training modules and getting them on the commerce learning center, training our field staff, the LSOs and the FMOs, releasing the final piece of MOJO in the March/April timeframe for production, getting our operational control center here set up as well as the one in Maricopa.

And then, finally, be able to answer all of the analysis questions and providing the data that the decennial directorate requires in order to make buy versus build and those analysis decisions that were core to the project.

To bring us back to the eye on the prize, I know you all have seen this slide before, but it's very important and we have one person in the team who's very

strong about always bringing us back to - that's a really great idea but not now.

So it's important that at the end of the test, I be able to report back from a team's perspective, did we meet the 20% increase in productivity for the enumerators?

Did we decrease our miles per case? As many of you heard, last time, we traveled the United States nine times over in 2010. Can we decrease that? Decrease in the total hours spent. With the automation of payroll and not having to meet at McDonald's every morning for that cup of coffee and turning in my payroll and getting my work assignments, can we get that?

And then, of course, importantly, is we have completely changed the field structure to kind of embrace this automation with new staffing ratios, a new structure, less management overhead. We want to make sure that that was accurate.

And if it needs to be refined coming out of production, that we can do that. And then last but not least, we have a lot of performance indicators built into MOJO, for the enumerators, for the LSOs. Did we get those right?

Do we need to tweak those getting into 2016? For production, did our automated training deliver? Where do we need to refine it going into 2016? And, of course, most importantly, the foundation of where we are, is the quality metric.

Insuring that we don't in any way, shape or form, with all the automation and all the new items we're performing here, making sure it doesn't have some impact on the quality metrics with the control panel.

Okay, so I'm going to ask Chuck if he can deploy. So, yes, as I said, keep in mind this is an audition video. We went to training. This just kind of gives you a feel for the excitement and some of the stuff that's going on within the team. And in the next PMR, as well, we'll show pieces of the MOJO operational control system.

((VIDEO))

Man: (On) most days, you will communicate with your supervisor by text or phone. Your supervisor is there to discuss with you, your job performance, how you do in your interviews and also to discuss with you, your available time.

Don't forget to plan up to five days in advance. They will also address any concerns, any incidents, any accidents, any threats. Let him or her know whether you need any supplies or any help, okay? Questions so far? Yes, ma'am.

Woman: What if someone complains to the Census Bureau about enumerators visiting?

Man: Well, sometimes we do get complaints. And it's your supervisor's job to relay any relevant concern or complaints to you and to discuss with you whether you need to change something you're doing or not?

You remember your training video about climbing fences, peeking in windows, loud knocking, right? Great. Now you use your smart phone to conduct interviews.

It tells your supervisor if you're working that day by streaming data directly to their computer. These data are then used to fill in reports, whether you picked up your cases for the day or if you were at the right locations for your

interviews. These data then are compared across all enumerators to identify those who are falling behind and those surging ahead.

Man: So it's kind of like a competition.

Man: No, not quite. Your supervisor gets ongoing reports about the completeness of your cases, their quality and other measures. And remember, we never falsify data. It is grounds for immediate termination. The census depends on our integrity and it all starts with you, okay? Now, let's all review the interviewing rules.

((END VIDEO))

Stephanie Studds: So that was just one quick module out of one of the key core videos. This was their audition, so we were able to show some of this to the field staff, as well, last week and field was really engaged with the fact that this is going to be multimedia.

So a lot of this will be videos that we're beginning to film next week outside of the Census Bureau, as well as you'll have some that look like they're being done in a classroom. So we're doing a large variety of multimedia content, so very much like the online training we take here. Questions?

Burton Reist: Thanks, Stephanie. Let's open it up for discussion. Trish.

Patricia Derr: Yes, I have a question for Melissa. You mentioned that the 2015 administrative records will not include the most current - was it the most current tax records? Is that a function of April 1 or something else?

Melissa Therrien: Yes, so traditionally we receive full sets of administrative records from IRS probably about June, June timeframe.

Deirdre Bishop: I can take this one.

Melissa Therrien: Okay.

Deirdre Bishop: Okay. As coincidence would have it, our busy time, April 1, is also the IRS's busy time, April 15. In the past, we've received deliveries from the IRS in May and that will be the case this year.

But we are negotiating with the IRS to receive deliveries a little bit early on. With that said, the negotiations have just started but we're hopeful that for the 2016 tests, we'll be able to receive those files early and then remove those vacant, deletes, occupied units prior to (unintelligible) follow up with - which typically starts mid-May for us.

Burton Reist: Ty?

Ty Mitchell: Yes, got a - kind of catch up here with a bunch of different things we talked about. Thank you. Yes, I - first thing - evaluations. I think Melissa - evaluations follow up that you talked about.

Melissa Therrien: Yes.

Ty Mitchell: I was struck by the goal of determining the best roster and I was just curious if you've got a methodology to figuring that out yet.

Melissa Therrien: So same as - it's basically a similar process that we did in the coverage measurement operations CCM of 2010, so we're taking all of those questions with - it's hard to get at - did people move in? Did people move out? You know, did we miss anybody?

So it's just, you know, re-asking the same questions in different ways in order to try to, in different ways, solicit, you know, any more information from who could have been here on this time?

And then we use the questions to - the answers to those questions to determine who was actually here on April 1? Who was here after April 1 or before. So it's really just asking more detailed questions in different ways to try to get the most information.

Ty Mitchell: You'll be relying on the eSample response as opposed to doing some sort of a - some sort of manipulation to - I mean, because - I mean, you don't have your own (areas) in that but that's just what you're going to work with, right?

Melissa Therrien: Exactly. Yes, so it's an independent interview and we won't be able to measure the quality of that but we - you know, based on previous research that we've done, the results that come out of an intensive interview like the PI - the personal interviews are somewhat better.

Ty Mitchell: The - I just want to read my notes here. I think this is out of order but the SIMEX - partly because I don't understand it all. Don't try to make me understand it. It's too high a bar here to shoot for.

But would the parameters that you have control over or the scenarios that you've already identified, is it going to let you play with some of the variables close to how enumerators might actually be (getting in) the system, specifically some of the stuff you're talking about earlier this morning?

For example, the idea of - I know we're not trying to manage based on contact attempts but is that kind of saying that you're going to be able to play with that? Is that in the scenarios that you've got?

Stephanie Studds: It is in the scenarios. So we played with a lot of the possibilities, so a lot of what field came up with were core things that go on every day - a dog bit, you know, I wrecked my car. How do I do that?

But there're also key things that the field wanted worked in. You know, there're core pieces in MOJO that we have in GPS coordinates. There're other things.

How do we begin to work with gaming the system? How do we begin to work with the attempts and sending people back? So all of those scenarios are covered in the simulation. They will be in a later day's simulations when the West Coast is up so that there's more participation from everyone on the country, yes.

Ty Mitchell: Thank you and I think this is related. Somewhere - I think, Melissa, talking about the contact, getting away from contact-based management and more other variables to manage. Are there - is it going to be case-specific? I'm sorry, the stop rules. Are the stop rules going to be case-specific?

Melissa Therrien: They're going to be - we're going to be measuring them at the block group level. So we're going to be looking at the data from the block group level. We're going to be looking at all the self-responses that we've gotten to date, all the non-responses, any information that we have from administrative records, understanding what's missing and, you know, what else we might need to get based on comparing it to benchmark data.

That's, like, the ACS and maybe the previous census. And looking at that at the block group level to say, "Okay, I think we have enough information here." And so we're - it's not that we're not managing by contact attempts, that we're still taking that into account.

But we're also adding in, looking at the data Real-Time to say, "Hey, you know, based on how many contact attempts, even though we didn't get to the three that we said we maxed out at, we have enough information here so maybe we can stop." So it's a duality of both of them.

Ty Mitchell: So you're using the information but the decision rule on stopping is it's going to applied at the block level as opposed to the...

((Crosstalk))

Melissa Therrien: Block group level, hmm-mmm in 2015.

Ty Therrien: Thank you.

Patricia Derr: ROCKIT sounds great. MOJO sounds great. And I'm sure you're working very closely with the COMPASS team. And so, I mean, it sounds great, all what you're doing in conjunction with technically how the operations of 2014 has, you know, were successful.

So I guess, you know, I'm - my question is less technical but more, like, from the viewpoint of the enumerators walking - it seems like it's going to be a lonely job. So much is automated and - which is the right way to go, of course.

But - and then something Tim said earlier about, you know, walking down that lonely road - driving down that lonely road in Montana or other areas. How - you know, how have you - what do you think about that?

Stephanie Studds: So this has come up and has been an ongoing thought among the team. Australia also mentioned it to us when they were here, that automation is

tremendous. We all need to move in that direction but how do you help the team feel like they're still part of a team?

So part of what we're doing is even though they won't have the - we don't really want them at McDonald's every morning but they do have the ability to face-time on the devices so we've been talking a lot about how to use face-time and texting, as well as phone calls, to feel like they have that ability to communicate as a team.

Some of the other things that field has actually brought to light that they feel would help in this manner is working with these little reports because some of the things that we've heard dynamically is, "I thought I was doing a really good job until somebody showed me where I compared with other groups and groups, and trust me fields not competitive at all."

But it's funny, the minute that they see that they're not number one or number two on the list, it's like, "Well, I have to get to one or two and how do I get there?" And so what we heard a lot in working with them, especially in the New York and (Denver trips) is, we want you guys to provide us something where we know from our devices - so when we pick up our device, we know where we rank in the group in Maricopa.

Because we want to strive to be number one or number two, so how do I get there? And so what we've had a lot of conversations about is how do you have a face-time or a group conversation via the device?

Because what we were told is, for every hour we bring all those people together, like, in a McDonald's - so if we just allow the LFOs to meet with the enumerator once, it's \$87 million for that hour. That's a lot.

So technology is bringing us the ability via the tablets and via the hand-held that we're giving them to do the face-time, to do the texting and to see those reports.

And what they told us is, it's not uncommon to what they're doing now in their work from home environment. They're still communicating on how do we get to be number one?

But it's also - so it's going to be something we're really going to watch in the 2015 test and we're talking to other people about how do you get that, still that working as a team where they don't feel like they're out there on their own?

And does anybody really care what I'm doing day-to-day? And that's what we don't want them to feel as though they're out there all alone, on their own, by themselves. So we're looking into the technology to really segue us into that. Face-time is the big thing everybody keeps talking about.

Patricia Derr: You mentioned six external systems and you use the word files which kind of piqued my interest because that sounds kind of old-fashioned. What are the external systems? And I don't know if COMPASS is considered one of them or not.

Stephanie Studds: It is. There are six. There's Gaps, there's Geo Passing Shape Files, there is the COMPASS, Gaps. Who else did I miss? There're six total. The stopping rules, the stuff coming in from UCRM. (The six: Geography, COMPASS, UCRM, UTS, Research and Methodologies, and DAPPS)

So in this short term, we are doing files. Come 2016 and the onboarding or Maestro, we are - mocks, we're already working with that team to accept conical based formats.

XML, with the defined XSD. And so we're already well on our way to doing that. In the 2015 Test with this quick inception of ROCKIT, we couldn't - you know, we don't - RTOCS is being - you know, that might not be much longer as a system.

We don't want to turn everything on its ear in 2015. We really want to walk - move towards the Enterprise CEDCAP solution and that being the MOCS interfaces so that's already been scheduled out for us through Seg Caps starting in 20- the end of 2014 we'll begin that work but we're already working with Maestro on that.

And some of the core engineers that we're working on, MOCS are the core engineers working on ROCKIT and MOJO. So there's already that cross-pollination between the two and what we need to set up in order to deliver. So it's a short term one-time shot so with the inception of ROCKIT, we didn't turn everything on its ear.

Burton Reist: Any others? So we have a break scheduled and we have to reset the front table. So rather than taking a full break, why don't we just take a few minutes, if people want to cut out for a minute or check their iPhones or whatever, totally understandable. Let's bring the next team up for the final presentation today and thank you all for a good discussion so far this afternoon.

((Crosstalk))

Burton Reist: All right, we're heading into our final session on the Savannah medium ROcKIT pass that we can now call the Savannah Site Test. We're so excited to be able to call these tests by the names of the sites, you know.

We're all doing it. So I think this has been a great day and we'll move into this final session and discuss the other test that's happening on Census Day of 2015. So Jennifer.

Jennifer Reichert: Okay, thanks. And we've all agreed to talk really, really fast so everybody can be - we can be done in time for the Nats game. Okay, so I'm going to talk about the optimizing self-response test which, as Burton said, we all know now is the Savannah Site Test.

So here's a brief overview of what we're going to talk about. I'm going to give you sort of a brief introduction to the test and what our objectives are for the test.

I'm going to talk about what are the objectives in terms of optimizing self-response and what our focus is in this particular test which is a little bit different from what we saw in 2014.

And then the next two bullets represent what that focus is. We're going to talk about the "Notify Me" which you heard some about from Mike this morning and how we're going to move on that beyond what we did in '14 as well as with a non-ID.

I'm just going to touch on the non-ID a little bit. The majority of what you're going to hear on non-ID is the next bullet which Evan is going to go into a lot of detail on the Real-Time processing of these non-ID cases which is the big

objective in this test. And then Stephen's going to finish up with - talk about how he's going to handle all the communications and the outreach for the test.

So just as an introduction, this test, obviously by its original name of the Optimizing Self-Response Test, is going to focus on our strategies to optimize and increase overall and Internet self-response for the 2020 Census.

This is just a self-response test. We will not have a non-response follow up component to this test. That will be in the Maricopa site which you just heard about.

So the communications treatment that you're going to hear a lot about from Stephen will be implemented based on both geographic and demographic characteristics and they're there to support our test to help educate our respondents about the "Notify Me" initiative and the registering of their contact preferences, as well as, just in general, motivating that online self-response.

We're still working on trying to key in on that particular way to maximize that Internet response. So some information about the site, you can see on the map there, this is going to be a site that surrounds Savannah, Georgia. It represents counties in both Georgia and in South Carolina.

The population is about 300,000 households and about 1 million people. Some of the characteristics of this site that were attractive for this particular test are that they had lower than average 2010 Census as well as ACS Internet response rates.

So this is going to produce an opportunity for us to really see how our self-response strategies work with some of those populations that have shown in

the past to be harder to capture and get responding to the census as well as on the ACS.

We have the ability within this site to segment the population by those hard to count characteristics which is really key to the communication strategy. They really need to figure out what are the best methods for motivating those sort of hard to count populations to participate in the census and, particularly, in the self-response component of the census.

The site had Internet penetration at least as high as the nation so that's good, given our push to Internet. We wanted to make sure that we had a site that, you know, produced that opportunity for people to use the Internet.

And then finally, it is a medium-sized market. So key here is that we needed it to be large enough for the communications director to be able to test some of their new methods and tools. But it needed to be small enough so that we could contain it and prevent too much bleed over which might generate too much load on our systems and be able - help us to be able to control the message that we're trying out there.

So you see some of the data there under there. It has 20 counties in the site which puts it at 92 out of 210 media markets, so it's right there in the middle. Okay, so what is our focus with optimizing self-response? Our focus in this test are going to be the two components that we know as "Notify Me" which is engaging the respondents early and getting them to provide us with their preferred mode of contact, whether email or text message, as well as this non-ID Internet response.

As you heard from Deirdre earlier today, those are the two key components from - within the self-response area of our design decisions next year so we need to use this test to learn as much as we can to inform that design decision.

It is not a test which is how it's a little bit different from '14. This test is not going to focus on contact strategies. We'll see some of that in the national test later on next year. But this test is going to use a single contact strategy.

So we will do the baseline method, as Mike referred to it earlier today where we have a postcard - I mean, a letter and then two postcard reminders and then eventually a mail questionnaire, so it'll have one contact strategy in the site. And that will also be, as you heard, the strategy that's used in the Maricopa site.

Okay, so for "Notify Me", as we all know, we've heard about this since the '14 test and keep going on it. This is the opportunity for the respondents to select their preferred mode of contact for future invitations or reminders. So they can select email or text message and then provide us with the appropriate email address or cellphone number.

In 2014, you heard this morning, some of the results from Mike. It was - primarily in '14, this was a proof of concept. We had never done this before. Nobody had ever done it before so it was more of a functionality test than really a performance test.

From a functionality standpoint, it was incredibly successful. I mean, we were able to get the emails and text messages. We were able to send out the notifications and the reminders in those modes.

So from that perspective, it was very, very successful. However, as you heard from Mike, we had a very low participation rate, only 3%, and we did experience overall depressed response rates in that particular panel.

So we want to look at it further. So in '15, we're really going to focus on promoting this particular opportunity to respondents. We're going to hope to use the communications campaign to really educate the public on what the benefit of this opportunity is and how - and basically just to make it more popular, make people understand what the value is to them by doing this.

We will use the communications campaign to promote this. However, there will be a sample that we will directly contact through postcards like we did in '14 to invite them to come in and participate in the "Notify Me" campaign.

So in a sense, what you can look at for this, and we'll talk about for non-ID is, well, we almost have two samples. So we have our direct contact sample which are these 30,000 households that'll get a postcard.

But then we have the entire remainder of the site. They're all going to be made aware, hopefully, if Stephen does his job - they're all going to be made aware of the "Notify Me" campaign, and that's going to sort of introduce them as another sample.

So in the last bullet here, we're looking at the measures. We want to look at both participation and response rates like we did in '14 but we're going to be able to look at it by both of those individuals who were directly contacted, as well as just the remainder of the site and see how well the communications campaign promotes it and gets people to participate in it.

And the next thing is the non-ID, so as we talked about, as everybody knows, I hope, by now, the non-ID option is the ability for respondents to go online and complete their census without having to have that ID. Either they never received one from us or they got one and lost it or they're just away from their house and they don't have it with them.

It gives them the ability to continue to respond. In '14 we saw that - we were fairly successful in matching over 90% response rate but it did - or 90% match and geocoding rate. It did have a lower response rate, so we need to investigate to get this a little bit more.

And as Mike indicated, a lot of that lower response rate is the fact that we had to match in geo codes. I mean, that wasn't 100%. So we are going to be looking at matching in geocoding. Evan's going to talk a lot about how we're doing this in Real-Time which hopefully is going to really improve that situation.

But in '15, again, as within "Notify Me", we're really going to focus on this promotion of this and make sure that everybody on the site understands that they have this ability that they don't have to wait to get that ID.

And as Mike said, some people might've questioned the validity or something of those postcards they sent in '14 because it didn't have an ID on them and that was - maybe they were unsure if that was real.

With a promotional campaign, we hope to maybe enforce on everybody that it's okay to come in without an ID. And, again, we almost have two samples here. So we are going to send out postcards in all the mail materials to 30,000 households.

They'll get the same mail treatments as our regular ID sample but we just won't give them IDs. So they'll get all of that contact on top of all of the promotion and the advertising and we'll be able to look at that group of people in addition to just the remainder of the site who just gets the promotion and the advertising.

Okay, so my last two slides, I just want to touch on the actual panel designs for the experimental treatment, so this table shows the panel design for the self-response treatments. We've already walked through most of this.

You can see we have three panels where we're direct mailing to 30,000 households. The bottom panel is the "Notify Me" panel so it obviously has a contact - what we call contact number zero, so that will be their invitation to come and go into the "Notify Me" site and provide their preferred mode of contact.

Obviously households that receive that notification may or may not, you know, what we call preregister. If they don't preregister, then they'll just default to the standard mail strategy. They'll get their letter and their postcards and eventually their mail questionnaire.

If they do preregister, they'll follow that same contact pattern but they'll get it in whatever mode they chose. Obviously, if they chose email, they'll get all of their contacts in email or text until that last contact which they'll get the paper questionnaire just like everybody else.

Now, because pre- the "Notify Me" site will be, you know, promoted throughout the site, we might get lots of people to come in and preregister even if they weren't in the 30,000 and then they'll get the same thing. They'll get that same treatment in email or text or whatever option they choose.

The first two rows are the mail - I guess you can call the mail out panels. These are the ones - 30,000 of them will get the letter and the postcards and they'll have an ID. So that's the standard mail Internet push that we do normally in the census as well as an ACS.

And then the second panel will get that same treatment but their materials won't have any IDs on them. The only other thing I want to just point out here, on this table, is that first postcard, that reminder, that will be a blanket reminder, so everybody will get that.

The last two contacts, the second reminder, and the mail questionnaire will only go to households that haven't responded by those particular cut dates. Okay, and then this last table, which I think you'll see again later in Stephen's presentation, and I'm not going to touch on many details here because Stephen's going to cover that completely for you, but just from a methodological standpoint, this just illustrates that, for the communications campaign, there's going to be basically a strategy of looking at both saturation level of the advertising in terms of the amount of money spent in particular areas, as well as whether or not we use the targeted digital.

And Stephen will go into a lot of detail. But what you can see from this table is that the site will be blanketed with traditional types of advertising, so your earned media and the newspapers and that kind of thing, and then - but you'll hear a lot about these strategies from Stephen. So now I'm going to hand it off to Evan who's going to talk about the Real-Time.

Evan Moffett: Thanks, Jennifer. So I'm going to spend a minute and take us back a little bit. It's just late in the day and I just want to remind everybody that what our goals and objectives are as they relate to the design decision.

So, you know, this morning Deirdre shared with you the design components and the key questions that we'll answer with this research. Design component two allows respondents to answer the 2020 Census without an identification code.

Elements within this component include providing respondents online tools that allow Real-Time matching and geocoding at the time of self-response or the use of a batch process to match and geo-code at specific times during the day.

The key question we need to answer is as follows - is it necessary to provide households with an identification code to respond via the Internet? In addition, we need to address aspects around if and how we would validate respondents as well as if and when user authentication process would be implemented within the workflow.

Further, we need to determine how frequently we conduct the matching and geocoding process. As many of you are aware, the methodology for non-ID processing is not new. We did this in the 2000 census. We did it in the 2010 Census.

So, again, the methodology itself is not new. We will be spending some time and energy figuring out ways to improve it. And that's what I'll talk about here today.

I think one thing to stress about 2000 and 2010 was that both of those processes were done in batch. And the future is not necessarily about batch. The future is about Real-Time and batch when necessary.

So the Bureau stood up a research team in May of 2012 to begin to address this work more recently across directory team was established, including membership from the 20 RPO geography division and the IT directorate.

The objective of this team is to stand up a system for the 2015 optimizing self-response test or the Savannah media market test to demonstrate the technical capability to process data in Real-Time.

And let me just throw out, we tend to get wrapped around the axle with terminology so Real-Time, in this context, is input process and output of data. And the goal is to obtain insight required to act prudently at the right time.

So the project is one of the top five priorities in the director's list and as such, we spend time with Lisa, Brian McGrath and Wayne Hatcher on a biweekly basis, providing them updates on the status of the project.

Internet self-response gives the Census Bureau an opportunity to research groups who are sometimes more challenging to engage and the option to respond without an ID is a critical component of the self-response vehicle.

As part of the Internet self-response process, we believe benefits can be yielded for matching and geocoding during the engagement with the respondent, specifically before the respondent completes a questionnaire or goals to determine if their address matches to a blocked geocoded record already within our inventory.

And if not, ensure it's assigned to the correct census block for data tabulation. We feel the best time to resolve problems with the respondent is when we are engaged with them and we have their attention.

So, for example, in the event that a respondent were to put in a basic street address, a house number, street name and zip code, and that does not match to our inventory of records, we might want to probe a little bit and ask them if there's additional data that they have that would increase that match rate.

So a classic example is, you know, in a multiunit structure, somebody not providing a matchable unit designation. Our assumption is that the rapid

resolution of non-ID cases provides us an opportunity to improve our business processes.

In this case, we believe we can alter the field staff workload for operations such as non-response which has the potential to reduce the overall cost of the census.

Additionally, in the past, we've independently verified addresses via separate field operation. We're hopeful that we can reduce or eliminate the need for a separate field operation by increasing the rate at which we're able to match and geocode addresses through non-ID.

So we're going to accomplish this work in 2015 by standing up a system that processes data in Real-Time. Elements of this system include our Internet self-response application, Centurion, matching in geocoding services and an interactive map interface.

In addition to building a system which will allow us to engage the respondents in Real-Time without the need for an ID, we also expect to learn a number of other things during 2015.

One, we're going to apply lessons learned from the 2014 test regarding batch processing which will employ after initial data collection in Real-Time processing. So, for example, in the event we didn't obtain a match to an address in our frame during the response, we plan to utilize the address enhancement process which utilizes a composite admin record's data to help confirm or correct the respondent address.

The second thing is, we'll also stand up a small scale effort at headquarters to manually match and geocode cases that automated processing can't resolve. This work will help us improve the business processes around non-automated

workflows conducted during 2010 referred to as clerical non-ID. This was an activity that occurred at the national processing center.

And then finally, we're going to examine the accuracy of the geocodes derived by the automated processing and from the interactive geocoding via the map interface that Frank McPhillips showed at the last PMR.

So where are we? Much of the team's focus since last PMR has been on delivering requirements to the system providers for key functionality required for the non-ID component.

Primarily, the emphasis had been on requirements for the Internet self-response instrument and address processing services that'll call during the collection of the address for non-ID.

Additionally, the team has provided detailed requirements for the map interface and use cases illustrating how the map interface will interact with the self-response instrument.

We've also expanded the requirements for the universe control system which not only serves as the traffic cop for batch processing we needed, but also provides the data output for analysis.

Accompanying these requirements are a number of artifacts, including the business process model, project level capability requirements, a traceability matrix and so on.

In addition, we've established a workload model that is helping inform how we are going to size the infrastructure to support this work. The requirements in the workload model have led to a technical analysis of alternatives for the project - for this project.

And with this information we've been able to obtain approval by the Census Bureau's architecture review board to move forward building a technical solution.

The components of this solution that I mentioned earlier are Centurion for the Internet self-response, the Bowie Data Center, network resources within the Census Bureau, geographic services which include geocoding, matching and a map interface. Software development and integration testing of the system components is ongoing.

We've conducted an initial integration test and with that, we've been able to determine that the network can handle the anticipated workloads that we expect during the 2015 test.

Finally, we've begun to procure hardware, software and licenses necessary to complete the work. Like all projects, the Census Bureau IT project's effort is following the enterprise system development lifecycle.

So what's next? The developers will continue to refine and integrate their applications. Performance testing in November and December will determine how the system performs in terms of responsiveness and stability under the modeled workload.

Exception testing is planned for December and will ensure the applications, making up the systems satisfy the requirements. Usability testing will be completed in early January. We're going to leverage the Census Bureau's usability lab.

In addition, we're looking to engage with some external experts in usability. And one aspect that I haven't mentioned that I do want to bring up, because it

came up earlier today, is that the Office of Information and Security within the Census Bureau is fully engaged in this project and as such, we have a number of penetration tests planned to begin shortly after the new year.

Finally, I'd like to take a couple of minutes to talk about additional work we're focused on for non-ID processing in the future. This isn't necessarily focused on the 2015 test, per se.

The option to self-respond without having to provide a census ID requires the mechanism to ensure non-ID respondents are really who they say they are. Fortunately, some of the work we've already done with administrative records can be leveraged to validate the legitimacy of the non-ID respondents.

Specifically, we can compare respondent-provided data - name, date of birth, address to the data found in the ad composite that we've already used for respondent - or I'm sorry, the ad composite we're already using for respondent address enhancement and detect problems accordingly.

The team is also exploring other identity validation options. These include the use of the federal cloud credential exchange knowledge based authentication, other commercial and federal administrative records and private sector solutions.

One example of the last is work that MITRE has recently begun engaging on. And, you know, one of their goals is to demonstrate viable solutions for public-facing agencies to use the identity - to identify a person who's interacting with the government via the Internet when the person does not have a pre-assigned ID.

So we're talking with them about ways that they think that we could do this. In addition to the work we're doing to stand up the systems and research

options in the respondent validation space, we're also looking at ways to improve the business processes for non-ID in the future.

We plan to use tools that are available to us, like you know, the RFI process, Challenge.gov to engage with the industry to find out, you know, how do they think we could crack this nut in the future?

And we're also developing a Real-Time non-ID roadmap which includes an examination of a technical approach of moving these different systems to a cloud-based environment. So this includes the non-ID portion of the presentation and I'll hand it over to Mr. Buckner.

Stephen Buckner: All right, it's the bottom of the 9th and the closer's coming on. And the last presenter today, an enviable position. The room was a little bit more full before I came on but I promise to entertain and give you some really good information, so bear with me.

So my name is Stephen Buckner. I'm the Assistant Director for Communications and I'd just like to say I'm really excited about the 2015 test. We've assembled a great team with a lot of great minds from across multiple directorates with a lot of different expertise here at the Census Bureau in our research and methodology area, in our communications area, across the decennial directorate and the IT directorate, and last but not least, our field directorates.

At the last PMR, I talked a lot about some of the digital trends that we're seeing over the last couple of censuses and how quickly technology is changing and how is that impacting the landscape of communications and how we reach consumers or customers or, in this case, American citizens or residents trying to be counted in a census.

And I spoke a lot about how that landscape is changing quickly. And so we'll go through a couple more trends here shortly but I do want to say that the team really does embrace this change and understands that what we're looking at today may not be what we're looking at tomorrow.

And so we have to be flexible. We have to take advantage of the new technology that is provided to us from communications strategy perspective, but also hold on to some of the proven strategies that we have used in years past that we know work and work very well.

So as technology changes and as communication changes, you also have to morph a little bit of the old with the new because out of that you get a solid communications program.

As such, with the evolving communications landscape, just at the beginning of the fiscal year, October 1, we put out a request for information to private industry to seek as much advice and answers to questions we have about how the communications landscape is changing.

And that will be out there for about a month. It's really the kickoff to the planning of the communications, integrated communications, contract that will be left in early 2017.

So this is a little bit in advance of the last census. That was one of the lessons learned coming out of the 2010 Census, was to start a little bit earlier and gain some insights. So this is our way to start opening up and start learning from industry what are some of the things we need to be looking out for as we start to prepare for the 2020 integrated communications program.

So with that -- making sure I went the right way -- this chart really just looks at Internet use over time and as you take a look at that, it's not limited to the -

sort of the digital advertising but it looks at sort of the targeting on the no Internet advertising back to 2000.

Since then, the time we spend online continues to increase. And we need to exploit these trends and adapt our advertising outreach methods to meet people where they're at with targeted messaging. And that's certainly one of the goals, is how can we better target content to those users out there that would receive it?

One of the interesting trends here, is if you look at the blue line, which is the line that's sort of going up and the black line that is going down, Internet use over time between 2000 and 2000- roughly 2010 grew from 46% to almost 74%.

But just in the last four years, it's grown 13%. So it's continuing to grow. So now it's up over near 90- up close to 90% of the people across the country use the Internet. And at the same time, over the last four years, 50% less don't use it.

So it dropped from 13- from 26% to 13%. So some of that is some of the things we'll be looking at through the market research that we're going to be doing. What are some of the trends and best practices and utilizing the Internet and digital communications strategies to reach the public?

I think another key characteristic to take a look at as you look at communications, is the types of devices and ownership over time. So here you'll see just a quick study that looks at access points to the Internet.

They continue to grow and change. We're no longer relying solely on desktop computers which is something I had to grab on at the last PMR. But they're also trying to really migrate more and more to smart phones.

So how do we take a look at that where more and more survey respondents are using their smart phones, not only to make decisions, but perhaps actually answer censuses and surveys?

When you take a look at the numbers, the top line is cellphones have grown from 85% in 2011 to over 90% in 2014. Of course, the big growth, as we've all been tracking, is among smart phones and tablets, with tablets growing from 2011 to 2014 from 8% to 42%.

It's a really huge growth but also huge opportunities in the way that we actually might be able to reach the public. Here is a side-by-side chart that takes a look at Internet and smart phone use. So, as you can see, trends vary by both age and race and it further supports the notion that demographically targeting ads digitally opens up new windows to reach hard to count populations.

So as we start looking our communications program, what are some of the ways and what are the types of effects of digital ads or traditional advertising on different segments of the population?

So a top line by age, you'll see that 88.1%, so almost 90% have Internet use, but over 70% are actually using smart phones. That's your young, single unattached audience right there, a key audience that we have to do a better job of trying to reach which are difficult to do through traditional advertising.

So that's certainly something we want to try to explore. This chart is dated back from September from eMarketer and it basically shows the share of time spent on individual devices are now surpassing the amount of time spent with TV, radio or print.

And those are sort of the traditional advertising channels, so advertising is catching up to the ways, based on the technology in the way of changes, but the largest ad spending share continues to be on TV.

So there's a disproportionate amount. So while the market share is growing on non-traditional means and on more digital channels, TV still is seeking most of the advertising dollars, but that's changing.

So Jennifer touched on the objectives of the test. So let me just briefly talk a little bit about them. I think the site selection was very key to coming up with the communications research that we wanted to be able to do, so working with the decennial directorates, we looked at a range of different media markets.

Medium sized media markets just give you a much more efficient way to test some of the strategies and things that we want to look at digitally and through traditional advertising.

For instance, to get the same level of impressions in the Savannah media market using digital advertising, we have to spend just 7% of what it would cost if we were going to do the same type of advertising in the Chicago media market which is one of the top media markets, so 7 cents on the dollar, we can get the same type of impressions in a medium sized market as we can in a very large top tiered market.

So I think that's really key but it also allows us to take a sample of the population in that media market and be able to extrapolate it to other population groups across the country.

So what does our timeline look like? Of course, all of our plans right now are preliminary at this point and will become a little bit more concrete once we have the findings - final funding levels for FY'15 and we begin to work with

our contractor to come up with the actual strategies in terms of looking at traditional and digital advertising.

But we hope by the end of November and anticipate a full and final plans for what we plan to do from an advertising for the optimizing self-response test taking place in the Savannah media market.

We do intend to separate our advertising into two phases. One will be educational, beginning in roughly February timeframe with the goal of increasing awareness about the test but also trying to get people and direct them to the preregistration "Notify Me" site.

This is right in line with what we've done in the last two campaigns - 2010 and 2000 where you had sort of a pre-awareness phase followed by an awareness phase and a motivation phase to try to get the American public to respond to the census.

So we'll be doing that. And then towards the end of March, once the systems become online that you can actually be counted, with the target date of April 1 Census Day, we'll implement our motivational campaign that's promoting sort of the test to get people to motivate, to respond online.

And you'll see those sort of charts throughout the timeline there. In June, of course, we'll start the evaluation analysis, start looking at recommendations and any lessons learned that we can carry forward into the next step.

And I say that, you know, this is really key in terms of understanding things going into 2015, but also don't forget, anything that we find here or other ways we might want to be able to enforce some other tests within ongoing surveys like the American community survey.

There are certainly some opportunities there between now and the census to do some further testing around the communications strategies we hope to hone for the 2020 effort.

So when we talk about an integrated communications model, I think this chart does a really good job just throwing a couple of the different buckets - they're represented in circles here. The line sort of shows sort of a leveraged versus a traditional model.

The red circles are your paid advertising channels and starting from right to left, the bottom is direct marketing, advertising, PSAs, online and digital, general and targeted.

And then the light pink appears, although I am a little color blind so somebody may have to correct me on that. The earned media, or stakeholder outreach components, media relations, partnerships, stakeholder outreach and events.

So this just talks a little bit more about the surround sound that you create in a test environment or in an actual communications campaign. The paid side complements. It provides you a broad awareness. It gets the impression levels up.

But the earned media and the earned outreach goes and tries to hit much more targeted areas. I'd like to say at this point, though, we're really excited for the 2015 campaign to be able to be working with Stan Moore and his vision of partnership strategies.

He's been tasked with helping us come up with an outline and strategies moving forward about partnership and how we might think about it for 2020.

So we're going to be working hand-in-hand with him and his team to make sure we come across with a very integrated approach moving into 2020.

So here's the proposed panel design that Jennifer had mentioned briefly and I'll go through a little bit. So in addition to having advertising activities throughout the entire media market to support the test, we're also going to divide the market into four comparable panels to conduct additional testing that enables us to learn a little bit more about the effects of targeted digital advertising versus non-targeted digital advertising as well as between high and low media saturation levels.

So the distribution between the panels will take demographic characteristics and our audience segmentation model from the 2010 Census into account. Currently, we also propose the use of reminder phone calls within the three or four panels where potential respondents received prerecorded messages from trusted community voices.

So you'll see the different panels. We've sort of - we're going to hone these as we get a little bit closer but you can see how the high spend saturation levels on the targeted side, on the targeted digital will get heavier digital advertising and some reminder phone calls whereas the low spend areas and panels won't get those reminder calls and will have a much lighter footprint from a digital and a target.

So what are the benefits of digital advertising? There're a lot of them over what is a traditional model, although traditional advertising will always be part of the mix. There're always new ways to reach people and online advertising has really unique ones.

So these bullets, I think, are pretty self-explanatory but they're certainly less expensive in terms of being able to get digital content out and in front of

people. The scalable budgets based on the funding that you have, you can really come together and pull together a program to reach a certain level of saturation based on the funding.

You can have a lot great targeted precision. So what does that mean? Well, with this, you can do a lot more geo-targeting. You can go down too much smaller levels. You can actually target specific characteristics of the population with much more ease.

And that feeds into a couple of the other ones, which is you can get a lot better data out of digital advertising than you can traditional and in more Real-Time. So you can really see how your ads and your content is performing on a Real-Time basis across the different markets or audience segmentations that you're trying to reach.

And I think those are really some of the interesting things that we're excited about because that's something we weren't able to do in 2010. The technology really wasn't there at that point.

So we talked about digital advertising. I want to talk a little bit about the types of micro targeted. So digital advertising, if you can imagine, that's pretty much any kind of online or mobile ad that's just meant for everybody that comes to that particular page.

But here are a couple of different ways that you can target your audiences and micro-target advertising. So the first one, obviously, is probably the most recognized one, which is by demographics. You can segment your audience by age, by sex, by race, or even the type of device they actually use.

The next is pretty self-evident in geographics, so location. With the digital advertising and the micro targeted, you can go down to very small levels of geography based on either zip code or even the block group level.

And so this will be a great advantage because based on the panels, we'll be able to target certain applications to certain zip codes and block tracks that we don't do on others. So you'll be able to compare how those things performed in terms of motivating people either to register or actually to respond online.

Now, the next two - contextual and behavioral I want to go a little bit into detail just to explain what those are. So contextual, let me give you an example of that. So assume you're a young, single male who may be on ESPN watching March Madness in the spring, watching college basketball.

And we know that's an audience in that demographic group that traditionally doesn't respond to the censuses as much as the general population. So we actually target those particular characteristics and they get a targeted message from an influential basketball player like LeBron James or a college basketball player at that time, that basically says, "Hey, the census is safe. You know, after this game, go ahead and fill it out online. It's really easy."

So that's targeted. That's contextual. It's reaching the user where they're at, with a targeted person, a targeted content that they recognize and motivates them to do something.

Behavioral is a little bit different because it's about your past online behavior or the type of lifestyle data that we might want to target. So let's say a respondent who's visited Census.gov in the past or came to the test site or the "Notify Me" site, but didn't either register or didn't go in and actually fill in the instrument and be counted.

So after they leave Census.gov, we might be able to send targeted ads to that person reminding them, hey, don't forget to sign up on "Notify Me" or to be counted in the next census.

So unbeknownst to them, sort of like as you're on an Expedia travel site, you're searching for Hawaii and you want to go on a trip or something, and then the next Web site you go to, for some crazy reason, there's an ad over here about Hawaii and a bed and breakfast deal that you have.

So the user doesn't necessarily connect it but it does get into their behavior pattern a little bit more. So that's what technology can give you. It opens up possibilities for you to be able to reach people with targeted messages and content when they want to be reached.

Here are some just examples, so this is a key word search ad which are really popular. Somebody types in American Community Survey and we're able to serve up ads and make sure our content goes above other types of content.

Here's a comparison of banner ads, both contextual and behavioral. On the left-hand side are contextual. You'll see that it's targeted based on the current activity, so here you're at a sports page and we know that you may be interested in a particular thing, so we're going to serve an ad up that says, hey, you're looking at sports but here's a sports figure saying, hey, go out and be counted in the census.

Or on the behavioral side, on the right side, the targeting based on previous activities. This is the example sort of that I just talked about. You're on the Washington Post but you just visited the Census site. Maybe you're now looking at a banner ad that says, hey, don't forget to fill out your census, something to that degree.

Then there's actually reaching by finding your audience where you know they're spending a lot of time online, so there's a lot of research out there and metrics with digital properties that tell you who comes to their sites and you're able to put display ads.

So here, the red box is a display ad on the substance abuse and mental health services administration. They're part of HHS and they're focused on substance abuse and mental health issues.

They had a goal, because young Hispanic men under-reported their substance abuse and Univision is not only one of the most popular Hispanic Web sites in the world, it's also a large part of the audience that men aged 18 to 34 go to, which was exactly the demographic that HHS was looking for.

So they were able to really target the content to that particular audience. The interesting thing about the US Hispanic audience is that they're four times more likely to read and take action after viewing banner ads than the rest of the general population.

So there're behaviors and changes on digital ads that cut across race and ethnicity, bounce across gender and other characteristics and that's something we're going to have to explore and take a look at.

Social media ads, I think we're all familiar with that. Here's a Facebook ad where you have two different types of ads. You can have one that actually goes directly within your newsfeed. Those are actually usually generating a lot more click-throughs or responses from individual people.

You see it a little bit more. It's right there in front of you. Compared to what we call a marketplace ad, over on the right-hand side, where you get a little banner blindness, if you will.

So it's over on that side panel. Everybody advertises there. You're used to seeing that on the search engines. If you're really interested, you'll see it, but a lot of times it goes unnoticed.

The difference between them are the newsfeed ads, the cost per thousand of impressions is higher but the click-through rates are more moderate. You get a lot more click-throughs, whereas in the marketplace ad, it's a low cost event but it's also low cost click-throughs.

So those are some of the factors as we look at the media mix and what we might do for individual ad placements. And then lastly, here're a couple of other examples here on Twitter where you just see some targeted ads in the feed as well as over on the banner side.

So let me go ahead and conclude that, again, I think this is really exciting that we're able to take a look at the type of digital media mix that we've done in the past but also alter it based on new technologies and new channels that are being open to communications to be able to maximize online response.

We're really looking forward to doing the research and finding out what we can learn from it as we begin to plan the 2020 Census communications contract and outreach program. And with that, I think that brings it to a close, so we'll take some questions.

Burton Reist: Trish.

Patricia Derr: Yes, on non-ID processing, one of the top five on the director's list, it doesn't seem like it's a cost driver. So it's a quality driver. And - yes, go ahead.

Evan Moffett: I actually think it has potential to significantly reduce cost because if we are adding an address during non-response follow up and - I'm sorry, let me back up. I'm thinking of something completely wrong.

I think it can be a significant cost reducer because it has the potential to eliminate additional field work that we did, for example, last census in the field verification operation.

Stephen Buckner: Let me add to that.

Burton Reist: John, John.

John Thompson: It's my priority so let me talk about it for a little bit. I think it has tremendous potential to reduce cost by - if you look at what Steve showed you on some of the digital advertising and things, we have the ability to reach people now at various different times and locations.

And if we can make it convenient for them so all they need is a smart phone, if they're motivated to respond, then we're going to get a lot more self-response from population groups than we ever did before from certain population groups.

And that will dramatically reduce the cost of going to run out and catch them. But the hard part is, like Evan said, is the authentication, validation, un-duplication, that kind of thing. So I think it has tremendous potential.

Patricia Derr: Okay, maybe I'm correlating it too much with the Be Counted last decade where I picture the person who does not have a valid address. Maybe they have a, you know, a hidden unit kind of situation and so they want to be included in the census.

And they go out of their way to either get a Be Counted form from the site last decade or get online and try and figure out how to navigate this verification process.

I guess I'm confused, then. Are you trying to include the people who probably aren't going to pass very much validation or not? And if not, I just would like to know that. I'm thinking of the hard to reach, the hard to count.

Burton Reist: Let me speak to this. I think the goal of non-ID processing is that we believe that we can - if we can figure this out, we can allow anyone anywhere to respond to the census easily and quickly so that they don't have to find a postcard that has an ID on it and type in ID.

They don't have to have registered beforehand so that we can give them an ID. They can be sitting on a metro car on their way to work and say, "I've got to respond to the census," pull out their smart phone and go ahead and respond to the census.

Or as John said, we can target - or envision a partnership specialist, being able to say, "Come on. Let's all respond to the census right here, right now." And they don't have to fill out a form that we have to follow up on in the field.

They can just come to us on the Internet, come to us on an Internet location via smart phone, via a monitor that somebody sets up at a partnership event where you're actually getting - you're not getting people to go home and respond.

You're getting them to respond right there, Real-Time in the immediacy of the moment whether it's an advertizing moment or a partnership moment or some other situation where you can just say - I can be at a party with Brian and say,

“Come one, Brian, respond to the census. It’s important. Do it.” And Brian can.

If we can figure out non-ID processing - well, he probably already will have but you know, other - my friends won’t and, you know, so that’s the vision there and that’s about not just - it’s certainly about hard to count.

It’s certainly about getting people who aren’t necessarily inclined to respond to the census, but it’s also about getting a lot of those people who are perfectly willing to cooperate with the census but have lost track of their form or lost track of whatever postcard we sent them and can just come online and respond to the census.

So I think that’s the vision here and I think by pumping it - what it does is it pumps up self-response. And it pumps up Internet response and in both cases, we believe we save a lot of money.

Patricia Derr: ...and pursuing those who are still maybe hard - harder to reach. What about languages? Is - are you going to be doing any experimenting with, you know, other languages in the non-ID arena?

Jennifer Reichert: So our sort of real big push for language resource will be in ’16 and that’s our current plan, is to do that in ’16 but yes, the idea is whether non-ID or ID that we have some kind of online option even within languages whether it’s the Centurion instrument or some kind of a fillable form or something.

We recognize that we have to make the online option available in multiple languages in order to really maximize our ability to use that as our response option. So right now, we have the online option and obviously available in both English and Spanish and they can go in through non-ID or ID and have access to that Spanish instrument. And then moving forward, we need to move

beyond that and look at other languages as well and that's our challenge moving beyond '15.

Brian Harris-Kojetin: So I don't know if this is for Jennifer or Burton or maybe it's even more for Enrique. I think this is really cool testing, you know, early in the decade me- testing the media and advertising.

But I start thinking ab- and I'm not really concerned specifically about your test here or I'm less concerned given the small sample sizes but I'm interested or - in terms of the spillover effect on current surveys.

So are you coordinating samples so that you're not - none of these people are going to be in any of the current surveys and what are you telling the - your permanent field staff about, oh, so I keep hearing about this thing on the radio or on my Internet and I got an ACS. This must be what it's - I'm being told do.

So I go to this other site and I register for "Notify Me" and now I can't figure out why this person's annoying the heck out of me and keeps wanting me to - keeps knocking on my door telling me to fill out the American Community Survey. I went online and I did it. Um.

Jennifer Reichert: So we had that issue in '14 as well. We got lots of calls in, like, because our ID number was longer or shorter than ACS and people were calling in and trying to put their ACS ID into the census types and there were all kinds of issues.

So yes, that's going to be a messaging issue and we need to work with Stephen's group on making sure we get those messages out there. Certainly for our direct contact samples, we are unduplicating with all the surveys so

we're not going to mail to anybody that's already in another survey or anything.

But there is this additional, sort of that second sample I talked about which is the remainder of the site. We obviously can't unduplicate the advertising from the surveys. So we'll have to work with Stephen's group to make sure that our messaging is as clear as possible so that people understand what we're asking them to do and not getting confused. But inevitably, we'll deal with that confusion when the time comes. I mean, that's why we have, you know, Stephen's area to help us with that.

Burton Reist: One of the nice opportunities about testing communications and trying to start to begin to develop a real census environment in that testing, and this is for '15, also for '16, and beyond and is that it gives us an opportunity to try out different messaging, to try out - this is a problem in the census.

You know that as well as I do. Enrique knows it too. Jim Treat knows it too. And so, you know, this is our opportunity to start to learn more about what kind of messaging works to help somebody who got the ACS, who's in the CPS, to understand that the short form decennial census test or the upcoming short form decennial census is not that survey and that they're different. So it gives us an opportunity here.

Brian Harris-Kojetin: And it's also not just blindsiding the folks in field division in Savannah with all this - like, where did this come from?

Burton Reist: Now my respondents are all - it's important to keep in mind but we'll be working closely with field and closely with the Atlanta region as we implement this and develop the plan.

Ty Mitchell: Thanks. Just comments. No questions, believe it or not. Although a sort of last minute rhetorical comment. You don't have - a rhetorical question. You don't really have to answer.

Keying up on actually something Trish was saying, I keep seeing non-ID, non-ID, non-ID processing but the reality is, you're going to have bad ID processing. You're going to have wrong ID processing and, you know, just - these are real issues. I know you're probably already wrestling with.

But to the extent, you know, I think it'll help in communications sometimes and to the extent you can characterize kind of the efforts you're working on and how those kind of are separate things because they're separate - they're going to come from different constituent groups.

They're going to come from different - I mean, it's just going to be different problems even though they all kind of fall under probably what you're calling non-ID processing. To that end, I think you said kind of the - you mentioned the next steps on one of your slides, Evan, about respondent ID validation.

Well, you've already got a test link of that from the '14 test because despite some of the comments earlier about the notice of visits, kind of being delivered properly. We saw that. I mean, more often than not, I think we saw the notice of it's like in multiunit places, you know, in weird places and stuff.

I don't know if the '14 test, if someone could log in with using someone else's ID, I don't know if they were - if it prompted - I doubt you prompted them with an address, but I don't know how this is handled in terms of whether they could use a different address or they could put in their own address.

But I'm guessing that even though the end may be very small, you might have something there that you can look at in terms of did the responses you get

match up with the other records you thought you had for those locations or for that ID?

You don't actually know what the location might've been if they didn't key that) - but anyways, so you've got a test thing there that maybe is helpful. And then for Stephen, I don't - digital media numbers that you're using, kind of motivating, you know, the trends and stuff really matter.

I mean, there's probably data out there on closer to the consumption of media and things that are closer to what the Census Bureau needs from people. So, I mean, I don't know if the media consumption numbers that you're using there are going to drive any decisions in terms of allocation of effort and things like that.

But if they are, you know, there might be data out there that's more targeted if you're not consumption of ads but, you know, ads that relate in transaction of, you know, or the kind of advertising consumption - or using - even using the Internet.

What do you use it for? Do you use it to buy things or are you using it to respond to civic things and stuff like that? And the last one, I guess, my question is, are there any eGov or other kind of regulations policy guidance that you kind of have to be sensitive to in terms of tracking people so that, you know, when you feed them some information, I just don't know. I'm totally unfamiliar with those kinds of things but it's just something that came up while you were talking.

Stephen Buckner: Yes, Ty, that's something that we're definitely in tune with. Other agencies are doing some of those so there's some precedent but we want to take a look at those with our privacy - chief privacy officer and make sure that we're within that.

And even if we can do it, is it something we should do? Does it make people feel uneasy? The VA has been using it in a very popular campaign to get veterans benefits.

There're a lot of veterans out there that don't know they have the right to get some benefits so they've done some targeted advertising specifically to somebody, let's say, remarketing, if I will.

They come to the VA site and they're looking around the benefits pages but they don't sign up or they don't do anything. They go off onto other Web sites and VA starts hitting them with, hey, were you trying to look for benefits to sign up?

Just a reminder. So there're those types which I think are probably in the better interest of the veterans but also on the public. But we have to be aware of those and we have to explore that. That's some of the confidentiality privacy research we're going to have to look at and also from a technology standpoint, the cookie policies and things like that.

So we're definitely aware of it. Just because you can with technology, doesn't mean you can as a government agency. So we'll have to work with you and others to determine that. Yes, the eGov books, right, I think.

Burton Reist: Other comments or questions? All right, I just have a few words as - to wrap up. Chuck, if you could put up a slide - a staff slide. I talked earlier today about Frank's move to run the Office of Census and Survey Analytics and our deep appreciation for his leadership and his program.

With that move, Lisa Blumerman now takes over as the associate - acting associate director for decennial census programs. And Melissa Therrien, who

you heard from earlier today, is the acting program manager for non-response follow up including the use of administrative records.

So I wanted to let - just highlight those two moves. And I actually had one more move I want to talk about. Beginning next week, I will begin the process of transitioning into a new position as the director of external affairs for the Economics and Statistics Administration at the Department of Commerce.

And in making this move, I just want to say that these past three years have been remarkable and I think that we can all be proud of our work. The '14 test has been a great success and as we analyze the results and turn our sites to the test in '15, we are smoothly on track to make a design decision by the end of the year.

I think that's a credit to us, a credit to Frank Vitrano, a credit to people across the enterprise who have been involved in this program. It's a huge accomplishment. And I think this is just an amazing group of people who have pulled it off.

And for me, it's just been a huge privilege to be part of this team. I want you all to know that I will still be part of the 2020 Census leadership team. And I'll just be in a different location with a slightly different focus but you're going to see a lot of me and we're going to continue to work together.

And I look forward to that in the years ahead, through 2020. I'm still in your job and you're still in mine, so that's not going to change. But I will now longer be managing the day-to-day operations of the decennial program.

With my transition, Deirdre Bishop will take over my management duties and Lisa Blumerman will be the acting chief of the 2020 Research and Planning Office in the position that I've held up until now.

So I can assure you that the program is in good hands. We have a great leadership team. You've heard from all of - many in that team today. Many of that team sits over here to the right. I think that, you know, I was so excited watching this program unfold today where we did an analysis of the '14 test and then we talked about the past document and the recommendation of that address canvass, reengineering that canvassing.

And then we did this deep dive this afternoon on the testing in '15 that we'll be doing to get us to those design decisions. I think this is a program that's on track and I think it's just - it will continue to be exciting to me and to be part of it.

And so I am excited about my new position but making this announcement is bittersweet simply because working with these folks, working with the people that I've worked with in this program on a day-to-day basis has been a pleasure even as we faced huge challenges.

You all are phenomenal colleagues and good friends and I'll miss the day-to-day interactions although they'll be still interacting a lot, you know. And so, happily, our work together continues as we move toward a redesigned approach to conducting the decennial census and I think that we're just going to all be very proud of this work going forward as we approach the 2020 Census.

So that's my wrap up. Mark your calendars for the next PMR. It's scheduled for January 9, 2015. As always, we welcome feedback and go ahead and send your comments to us and follow up with us. This completes the eighth PMR. Twenty-nine quarters to go to get through 2021. So thank you all very much.

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